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ABSTRACT

This publication contains a collection of student-produced activities about wildlife. Children's views of the varying life forms that they encountered in field walks to a marsh are expressed through the games, puzzles, stories, and pictures that they created. Samples of the students' work are organized into separate topic areas. These include: (1) insects; (2) trees and plants; (3) reptiles; (4) birds; and (5) mammals. Specific aspects of these major topic areas are developed as facts on rabbits, diagrams of tree parts, and stories about turtles. The activities are geared primarily to middle school age students but some could be easily adapted to the primary age children. (ML)

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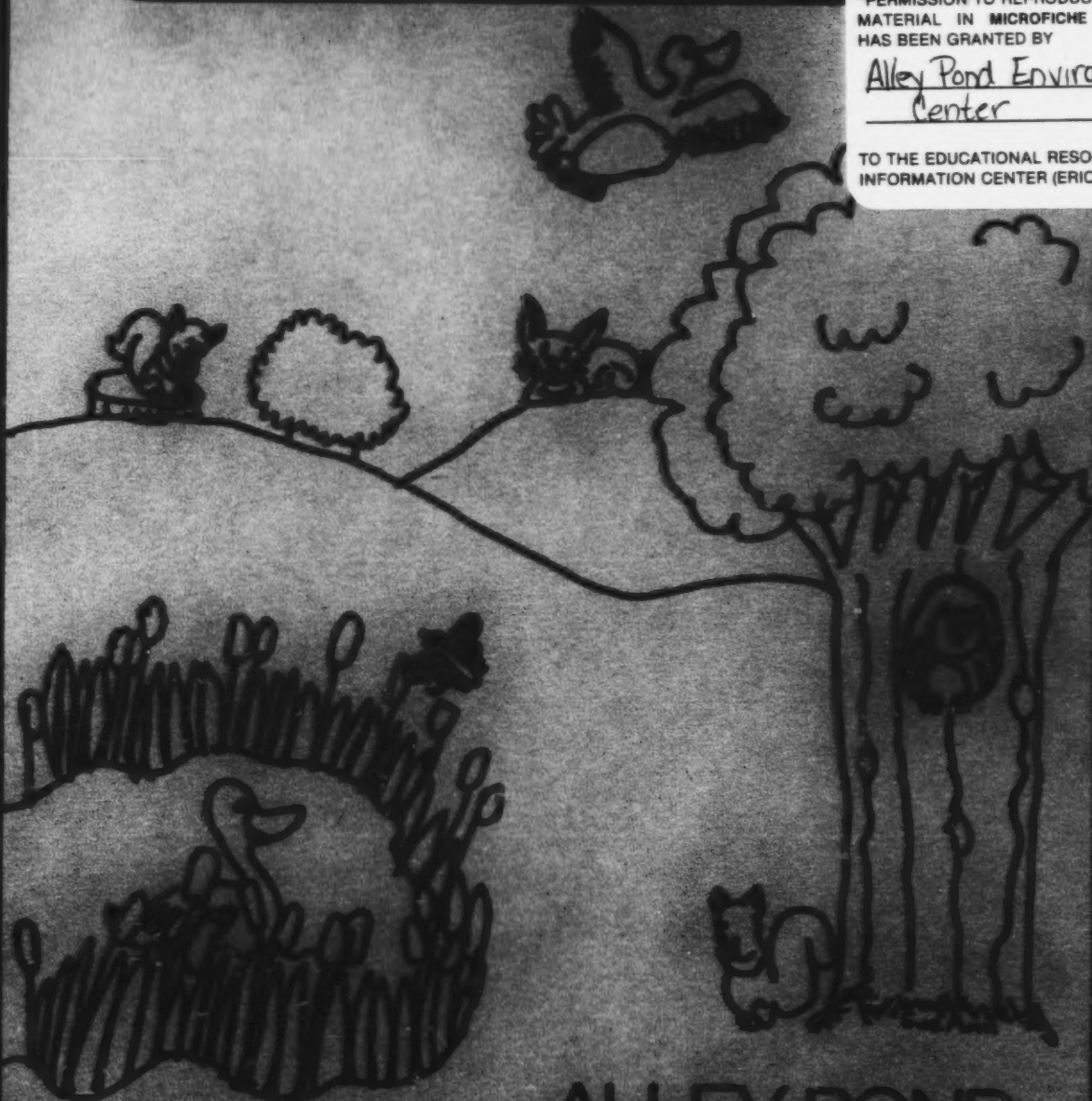
MARSH

Created for
and by Children

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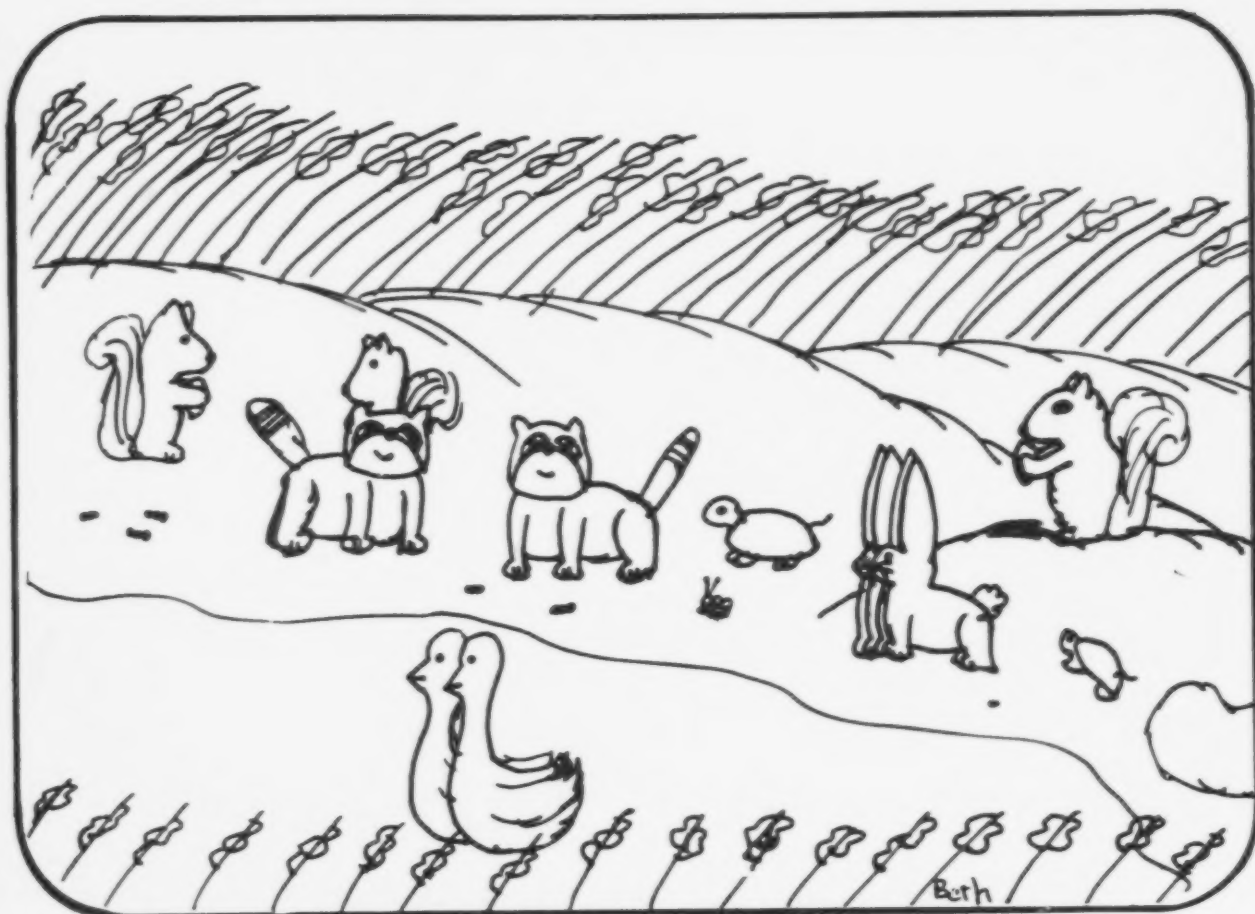


ALLEY POND
ENVIRONMENTAL CENTER

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SE 046 196

Secrets of the Marsh



AN ACTIVITY RESOURCE BOOK FOR AND BY CHILDREN

EDITED BY ALINE EULER

JUNE 1982



Alley Pond Environmental Center

228-06 NORTHERN BOULEVARD, DOUGLASTON, N.Y. 11363

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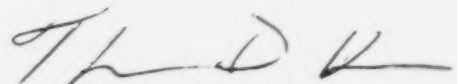


FOREWORD

Through the Private Match Program, the New York City Youth Board is able to fund the educational enrichment program offered by the Alley Pond Environmental Center, one of New York City's Queens borough Cultural Institutions.

With the cooperation of the New York City Youth Board, the Alley Pond Environmental Center has developed successful programs for the physically handicapped and emotionally troubled and, as this handsome book illustrates, for the City's gifted children.

We look forward to continuing cooperation with the Alley Pond Environmental Center for the benefit of our City's youth.



THOMAS D. HEMANS
Executive Director
New York City Youth Board

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ALLEY POND ENVIRONMENTAL CENTER, INC.

(212) 229-4000

228 06 NORTHERN BOULEVARD, DOUGLASTON, N.Y. 11363

INTRODUCTION

Children's views of some of the living things found in the landscape of Alley Pond Park are presented in this publication.

Twelve gifted school classes from the borough of Queens were chosen to participate in a special program funded by a Private Match grant from the New York City Youth Board. The project involved selection of the classes, teacher workshops, consultations, class visits, field walks and the compilation of games, puzzles, information, pictures about wildlife created by these children into a publication intended for the pleasure and enjoyment of other children. Their goal is to share the fun of discovering the plants and animals that make their homes in Alley Marsh in Alley Pond Park, Queens.

It is hoped that the enthusiasm and cooperation of the students and teachers participating in this program will be a motivation to all who read this book to learn more about the wonder of our precious parks.

George O. Pratt, Jr.

GEORGE O. PRATT, JR.
Executive Director

Aline Euler

ALINE EULER
Program Director

MERRILLY WE TROD SEARCHING FOR ARTHROPOD

Class 5-230
P.S. 1314

Mrs. Casey, Principal
Mrs. Winnick, Teacher

Hey all you insect lovers out there! Have you ever been insect hunting? Well, I have. Here's how it happened. My class took a trip to Alley Pond Environmental Center (A.P.E.C.).

Patrick Murphy



We were so excited! When we arrived, we walked in and got a lovely welcome. In a large room we first talked about insects.

Stephen Brown

We learned that insects are part of a group in the animal kingdom called "Arthropoda", which means the jointed leg group.

Victoria Linchon



We learned that every insect has three parts. They are the head, the thorax, and the abdomen. Insects also have six legs. Some people think a spider is an insect, but it isn't, because it has eight legs.

Richard Costa

After the lesson inside, we went outside for our hike. From the highway A.P.E.C. doesn't look like much, but once you're on the path, it's beautiful. We saw tall stalks, trees, and grass. We spotted several praying mantis egg cases. We turned over rotten logs and rocks and found centipedes, millipedes, and other insects. We even saw a caterpillar emerging from its cocoon. It was so interesting.

Tania Turcinovic



After a fun time in the wetlands, we went back inside. We were able to touch the animals that were in the cages there, including birds, turtles, bunnies, and hamsters.

Natalie Gladenov



INSECTS

We also made some caterpillars out of egg cartons.
When we finished our work, we ate our lunch outside
and went back to school. John Marcktell

HELP MR. BEE GET BACK TO HIS HIVE

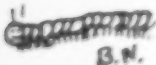


Beth Lovick

They're black and red, green and brown,
Some of them live under the ground.
Some are harmful; some are not,
Some can fly and some cannot.

Look for them on the ground and in the air.
Looking through a magnifying glass might give you a scare!
At the Alley Pond Environmental Center, you'll see them there.
Be alert. Look all around and everywhere.

Stanton Brown

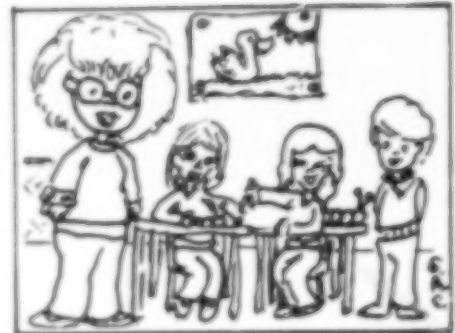
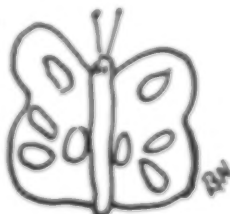


Once I saw a butterfly fly,
In the morning sky,
I heard a butterfly flutter,
And saw its beautiful color.

I saw the butterfly fly to a flower,
And get the nectar with all its power,
And then it flew away,
When the flower started to sway.

Fly, fly, fly,
Fly all the way to Molokai,
Bye, bye, bye,
Bye to the butterfly.

Ethan Solomita



I saw a centipede.
It moved with great speed.
And I saw a spider,
Go to a tree and climb 'er.
I saw this and more,
Walking on a tour,
In the A.P.E.C. center,
A wildlife protector.

Britt Ewen



If I were a termite,
I would bite with all my might,
So I could eat all that wood
Before all the other termites could.
I wouldn't get a stomach ache
From eating lots of chocolate cake,
I would only eat wood
Because that's all a termite should.

Matthew Frankel

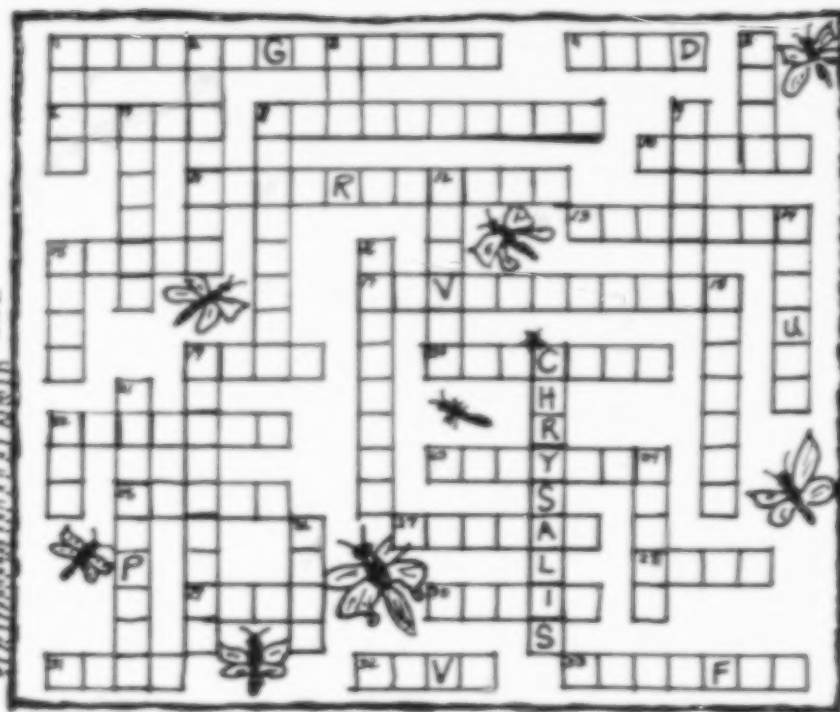
VICTORIA'S FAVORITE RIDDLE

What do you get when you
cross a termite with a
praying mantis?

An insect that says Grace
just before it eats your
house!

CROSSWORD PUZZLE

After you have finished our puzzle, write your own clue for our bonus word, chrysalis. _____



Lisa Modenos

ACROSS

- 1 It eats other insects.
- 4 Breeding place of mosquitoes.
- 6 Flies are insect _____.
- 8 Animal phylum of insects.
- 10 Insects hide under _____.
- 11 The larva of a moth.
- 13 Third part of insect's body.
- 15 Some insects have two pair.
- 17 Surroundings.
- 19 Produces wax and honey.
- 20 Attached to twig by female.
- 22 Protection from the weather.
- 23 Type of beetle.
- 25 Home for many animals.
- 27 Middle part of insect's body.
- 28 Outer covering of trees.
- 29 All insects have six.
- 30 Insects are link in food _____.
- 31 Insects have compound _____.
- 32 Bees' home.
- 33 Many insects are _____ to man.

DOWN

- 1 Stage between larva and adult.
- 2 Small six-legged animals.
- 3 Uninvited guest at picnic.
- 5 Hike
- 7 Season of awakening life.
- 8 Feelers
- 9 Pupa of a moth.
- 12 Caterpillars.
- 14 Plants and animals are part of _____.
- 15 Parasite of many insects.
- 16 Marshes preserved for wildlife.
- 18 An insect that eats wood.
- 19 A monarch _____ eats milkweed.
- 21 Too many legs to be an insect.
- 22 Insects have _____ legs.
- 24 Larvae of beetles.
- 26 Animal's home.

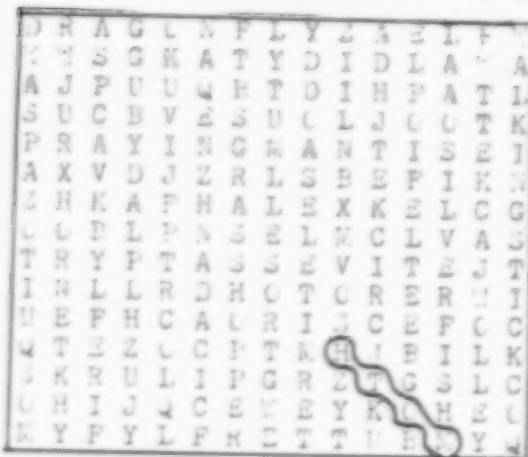




INSECT SEARCH



We've hidden two dozen insects in our word game. After you have located them, put their names in alphabetical order.



Spring Haiku
The warm sun is out.
Once more nature awakens.
And the birds will sing.
Cue Ann Chai



— wasp	— praying mantis	— ladybug
— moth	— grasshopper	— cricket
— flea	— silverfish	— termite
— bee	24 yellowjacket	— cicada
— ant	— walkingstick	— beetle
— roach	— dragonfly	— firefly
— aphid	— katydid	— mosquito
— louse	— butterfly	— hornet

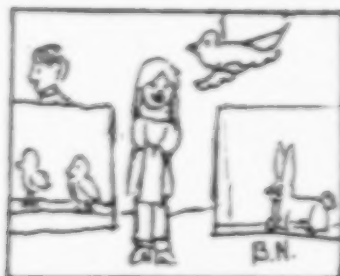
If I were an insect, what would I be?
A butterfly, a centipede, or a humbeetee.
Insects, insects, who are they?
Can they walk, talk, or only fly away?

Maybe I'd be a butterfly,
And sit on a flower all day.
Or maybe I'd be an ant,
And never say, "I can't"

Brigitte Borteck

Who am I?

I am very fond
Of good old Alley Pond.
I give people a nasty bite.
I suck their blood with all my might.
Windy Cowen



I hope that when you go to A.P.E.C., you will have lots of fun. It is so interesting and beautiful. They have projects for you to do, animals for you to see, and even a gift shop. But remember, if you are looking for insects, you must keep a sharp eye out for them. Look in decaying trees and under old things. Enjoy! Kevin Collaco

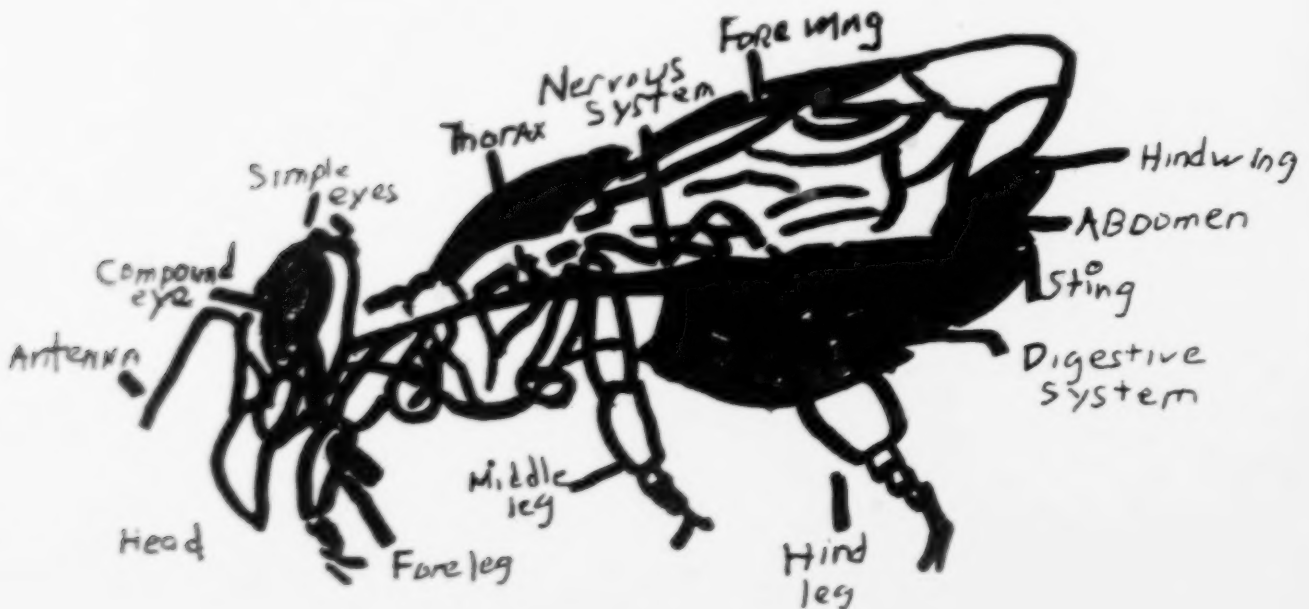
Class 5-230 LOVES A.P.E.C!

BEES BEES BEES BEES BEES BEES

PS 175Q
Class 7-234

Teacher Mr. Zorbas
Assistant Mrs. Duignan

Unit Coordinator Mr. Gasparino. Class: David Alvarez,
Gary French, Jeff Desilva, Michael Scott, Jamal Martin,
Mario Ferreira, Steve Crosby, John Doria, Robert Stanley,
Andre Thompson.



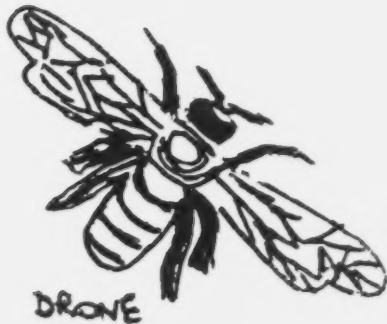
THE HONEY BEE

Probably the best known of the bees is the HONEY BEE. As in other bees, the HONEY BEE is divided into a head, thorax and abdomen. It is equipped with two pairs of wings. It is covered with many fine hairs giving the insect a furry appearance. The mouth parts are adapted for both cutting and sucking. The abdomen of the female HONEY BEES is provided with a sharp stinger which is a defense weapon. The colonies consist of many bees ranging from a few thousand bees to 60,000 bees. They build combs in the hives. The combs are kept in repair with a sticky substance called propolis collected from trees.

CASTES

In each colony there are three castes- a single Queen, several hundred drones and thousands of workers.

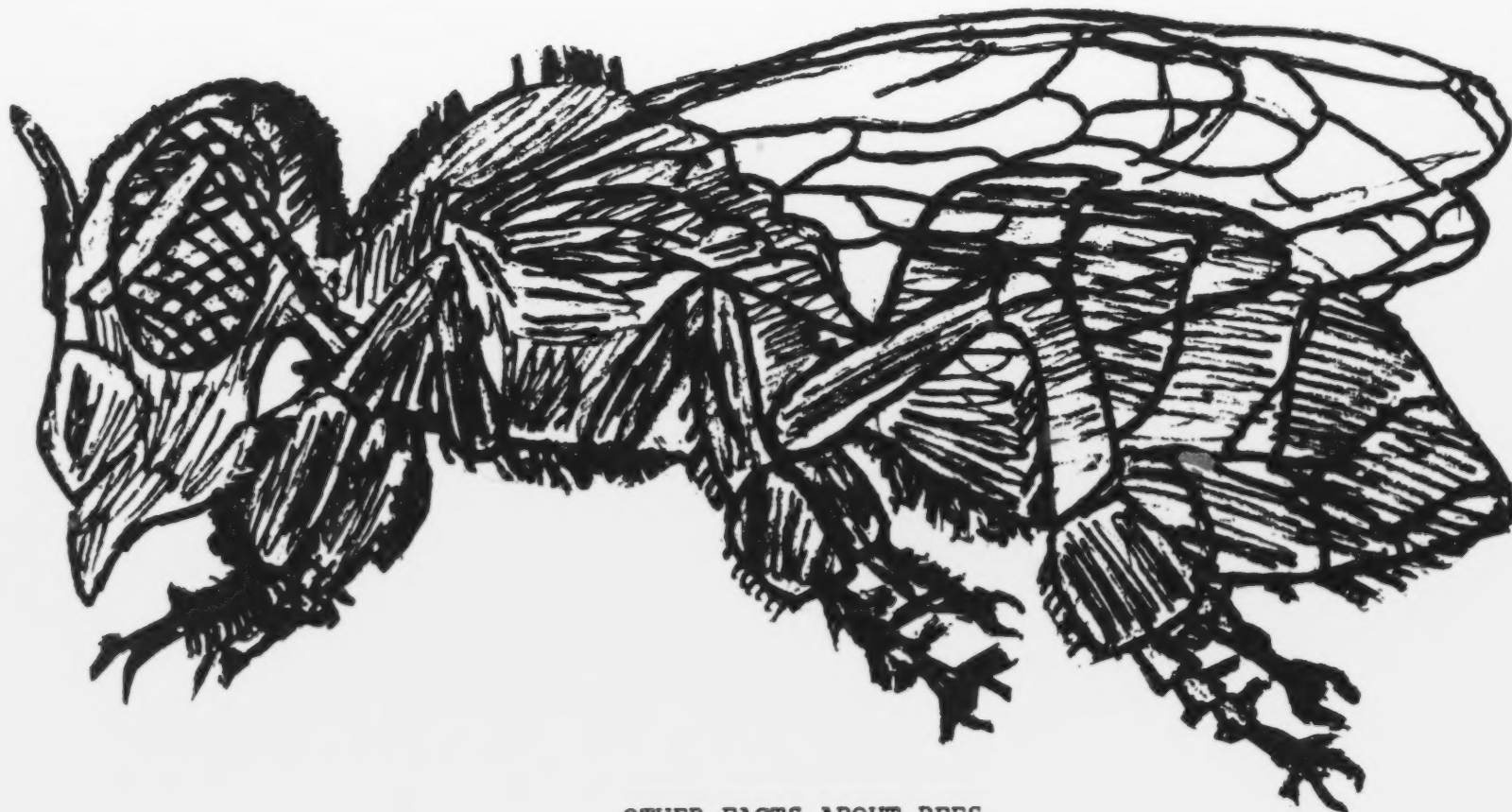
THE QUEEN is a large female bee reaching about an inch in length. She is the mother of the colony. The drones and workers are hatched from her eggs.



THE DRONES are named for the low humming sounds they make in flight. They are the large males. Only one out of hundreds in a particular colony serves a useful purpose, that of fertilizing the young Queen during the nuptial flight. The other drones appear to be completely useless simply loafing about the hive allowing themselves to be fed and cared for by the workers. When cold weather approaches and food supplies must be conserved, the drones are killed by the workers or driven out to die of starvation.

THE WORKERS It is upon the workers that the real strength of the colony depends. These are underdeveloped female bees in size ($\frac{1}{2}$ inch long) but exceedingly industrious. They build the combs, keep them in repair, gather nectar and pollen and convert the nectar into honey. They are the defenders of the colony, carry off dead bees and other waste matter and in hot weather ventilate the hive by circulating the air with their wings. Working in shifts they regulate all the affairs of the colony.





OTHER FACTS ABOUT BEES

1. After mating in the air, the drone dies and the Queen returns to the hive to begin her lifetime task of laying eggs.
2. Bees obtain their food by entering flowers and sucking up the nectar contained in them. They store the nectar in the honey sac or second stomach and return to the hive.
3. Bees gather pollen which they store in a cavity or basket on each hind leg for transport to the hive.
4. When a worker finds a good food source, she returns to the hive to tell the other bees by doing a dance.
5. Bees are important agents in the cross fertilization of flowers. Their bodies become dusted with pollen and the pollen is accidentally transferred from flowers.
6. When a worker bee stings a person the insect usually dies.

LIFE HISTORY

For the peace and prosperity of the hive, there can be only one Queen. Unlike the drones and workers, the Queen may live for several years. During summer she sometimes lays as many as 2000 or 3000 eggs a day but as fall approaches the number gradually declines. No eggs are laid in winter. Attended by workers, the Queen slowly moves over the comb laying at will two different kinds of eggs: 1. eggs from which the workers and Queens develop and 2. eggs which give rise to the drones.

Each egg is deposited in a separate cell and after about three days it hatches into a larva. The workers feed the larva bee bread (a mixture of honey and pollen). When the larva is full grown, it spins a cocoon and the top of the cells is sealed by the workers. Within the sealed cell, the larva becomes a pupa and then becomes an adult, finally pushing itself out of the cell. The development of the worker bee requires 21 days, that of the drone 24 days and that of the Queen 16 days. The metamorphosis is the same for all three castes of bees but the developing Queen bee is fed a richer mixture of food known as ROYAL JELLY. As the colony becomes too large for the Queen, a new Queen is allowed to develop and the old Queen together with a large group of the older workers suddenly leave the hive to establish a new colony. This instinctive behavior is known as SWARMING.

queen
PUPA



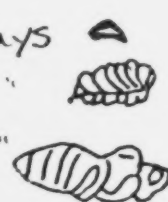
3 days
5 1/2 "
7 1/2 "
16



Drone
PUPA



3 days
6 1/2 "
14 1/2 "
24



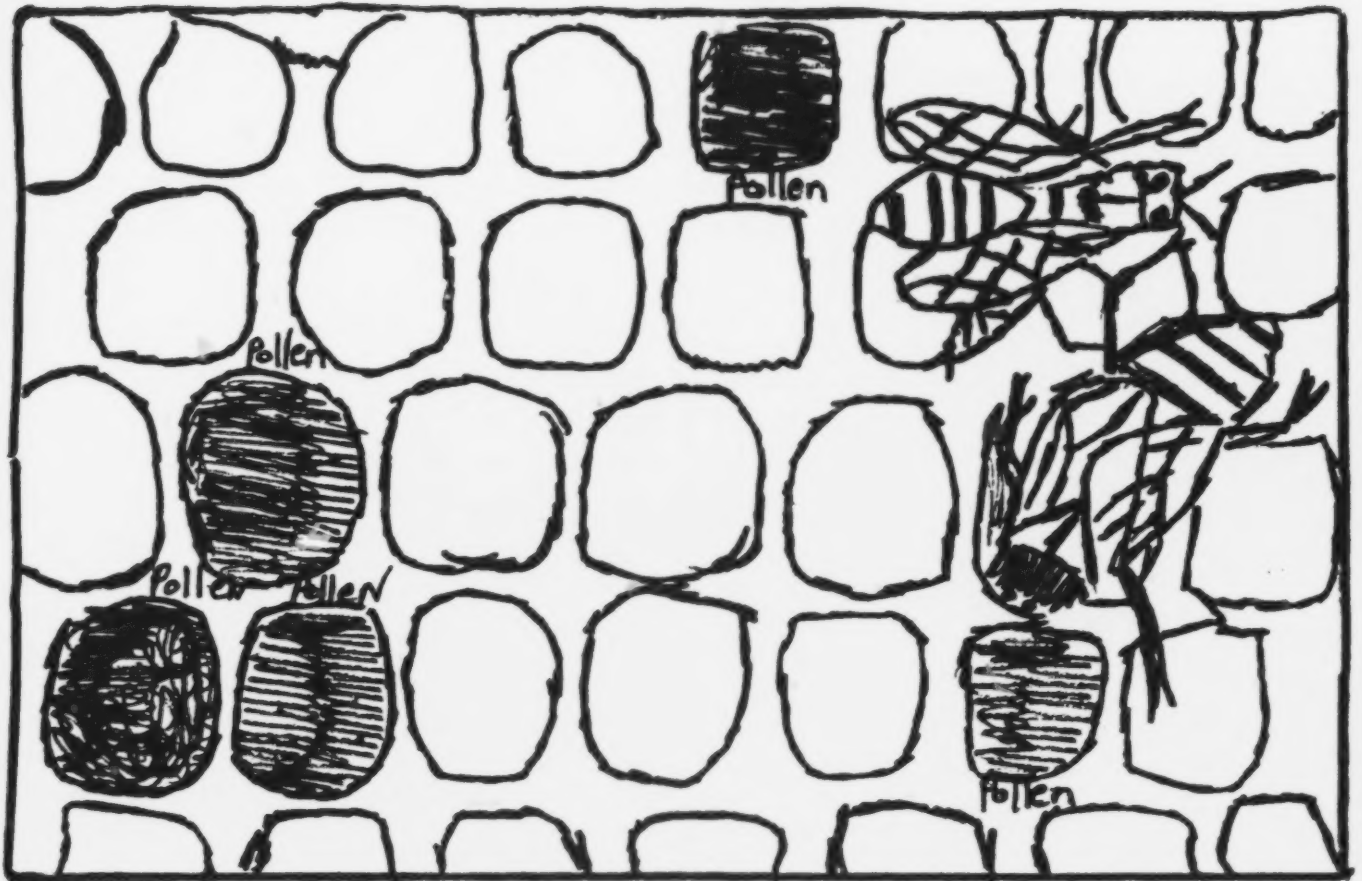
worker
PUPA



Egg 3 days
Larva 6 "
PUPA 12
Total 21



A Bee Hive



INFORMATION ON BEES

A bee is a hard working insect that makes honey, stores honey and pollen, for use. There are about 20,000 species of bees found throughout the world. Some bees such as the honey bee and bumble bee live in colonies. There are various castes working together for the good of the colony. These are social bees. Other bees lead a solitary existence. Each family constructs a nest of its own and feeds its offspring without the help of the worker bees.

INSECTS...

WHAT IS AN INSECT?

Insects are related to crabs and lobsters. Insects have an exoskeleton. The parts of an insect are: antennae, simple eye, compound eye, head, thorax, abdomen, wings and jointed legs. All insects have six legs.
By Andrea C.

An insect is any creature that has no backbone. Its body has three parts: a head, thorax and abdomen. There are approximately 15,000 different types of insects around New York City. Some of the most common are: ants, bees, mosquitoes, hornets, dragonflies, butterflies, flies, grasshoppers, and beetles.

Michelle B.



Insects live on land, fresh water, and very few in the sea. They breathe through little holes in their body. Some have no wings, some have two wings, and some four wings. They have different kinds of mouths for different kinds of foods. They are also different shapes, sizes and colors. Insect structures are interesting and varied.
Michael M.

Word Search

Word box

bee
fly
lady bug
mosquito
cocoon
beetle
Cockroach

A	E	Y	O	B	C	D	Z	S	T	H
F	L	Y	S	E	V	X	S	Y	L	S
M	A	B	Y	E	C	O	C	O	O	N
O	D	Z	L	T	Z	E	Y	Y	S	E
S	Y	O	D	L	O	Y	L	Y	D	O
Q	B	G	V	E	R	S	T	G	K	R
U	U	B	E	E	I	C	C	E	Y	Z
I	G	O	Y	V	Z	V	O	O	Z	H
T	H	E	Y	D	O	O	E	F	D	V
O	C	O	C	K	R	O	A	C	H	I

by Erika Meitner

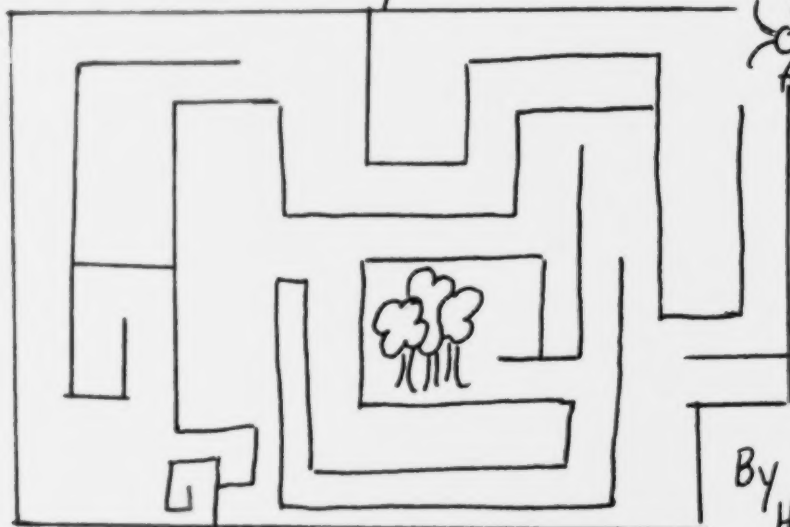
HONEYBEES

The workers in the hive gather food and make wax. Honeycombs are made of six sided rows of cells. The Queen lays eggs in the cells. After three days the eggs hatch into larva. A larva is a baby bee. It grows quickly. The larva turns into a pupa and step by step it takes the shape of a bee. The full grown honeybees chew the lids off their cells. They are ready to join the life of the colony.

Because beeswax burns slowly and gives off a pleasant smell, it makes fine candles. It is also used in making gum, inks, lipsticks and crayons.

Bees and flowers are partners. They need each other. As bees gather food they carry pollen from flower to flower. The plant needs pollen to make seeds. Without bees many fruits and flowers would disappear. George

Help Lee the bee find his way out -



By Lee
Hendelman

The bee is a social animal who lives and works in groups or colonies.

Life inside a colony is complicated. The work is divided among three classes -- a queen, workers and drones.

The queen is larger than other bees. Her job is to lay eggs. The drones are males whose only job is to mate with the queen.

The busy workers are females, but they do not mate or lay eggs. They build the hive, gather food, make honey and care for the young.

Pegina

The Ladybug

Ladybugs are small, round, shiny beetles. They are also known as ladybird beetles, ladybugs and lady beetles. The female lays her eggs on plants, and continues feeding on small insects until winter. Then the ladybugs hibernate under stones or houses.

Beetles are useful in fighting pests. The ladybug helped save the orange industry.

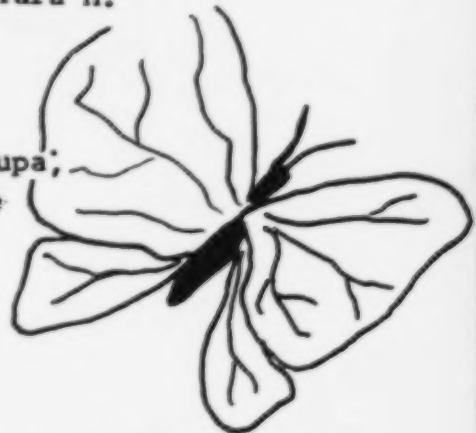
Tara H.

Butterfly Facts

They eat leaves.

Their life cycle is egg, larva (caterpillar), pupa, and adult butterfly. Moths and butterflies are different because butterflies fly by day and moths fly by night.

Frank B.



PRAYING MANTIS

A praying mantis (also called a mantid) is not praying when it holds its two front legs up. It is really waiting for a bug to come by so it can grab it. Some people tie it to their beds to get rid of other insects. They also eat each other.

Matthew U.

GRASSHOPPER

In late summer the fields are often noisy with the buzzing and singing of grasshoppers.

Scott Freiburger

WHAT AN INSECT MEANS TO ME!

Ants, ladybugs and bees are very important to farmers because they eat bad bugs that eat the plants.

Brian S.

A firefly gets its light from a liquid in its abdomen.

Michael

Leaves are good places for insects to lay their eggs.

George

Honeybees make very small honeycombs.

Pablo

An ant has six legs.

Jamie

An ant is the strongest animal in the world. It can carry three ants on its back. A lion can not carry three lions.

Jason

Bugs are slimey. I love them.

Regina

Some insects are social insects.

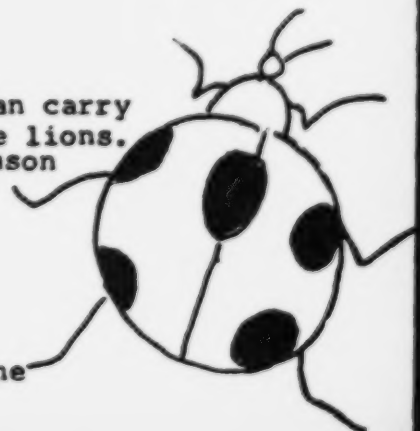
Lee

A ladybug can fly.

Scott

I can carry a ladybug in my pencil case.

Christine

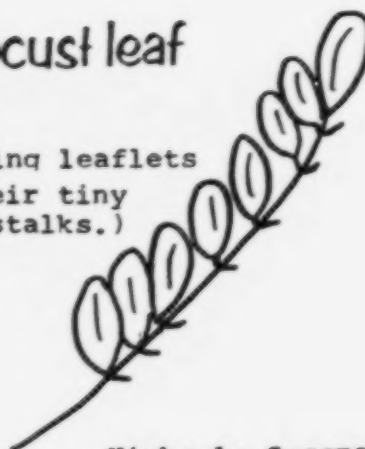


Complete the Black Locust leaf

word puzzle

B R I K L M S O L E M
O L T R U N K T R O L
G A M L S O N U T E P
R O L M E S O L M N U
A C O R N K T S O I L
S M A K O K N U W N P
S O N E C W L N S O I
L N S U T S E E D T S
O R T O F O I T B S E
L T E R U R N K U L V
U A M R R T U I D N A
M D O E M G C I S T E
B X B R A N C H T I L
E C A O N I D Y L O V
R B A O B W O O D Y A
O R B T A A N T G E I
L E A S M T O N W E M
O S R C A E R N O I T
T H K A T R E E N K G

(Draw the missing leaflets
attached to their tiny
stalks.)



Kimberly Sussman

FIND THE HIDDEN WORDS

acorn	fruit	pulp	sun
bark	grass	roots	trunk
berries	leaves	seed	twig
branch	lumber	soil	water
buds	nut	stem	wood
cones			

Robert Harris

"A Weeping Willow"

A waterfall of branches
Falling into the lake.
A sad head with hair hanging down.
The letter N with the trunk in the
middle and the branches hanging down.
A weeping willow.

Christopher Pan

COTTONWOOD

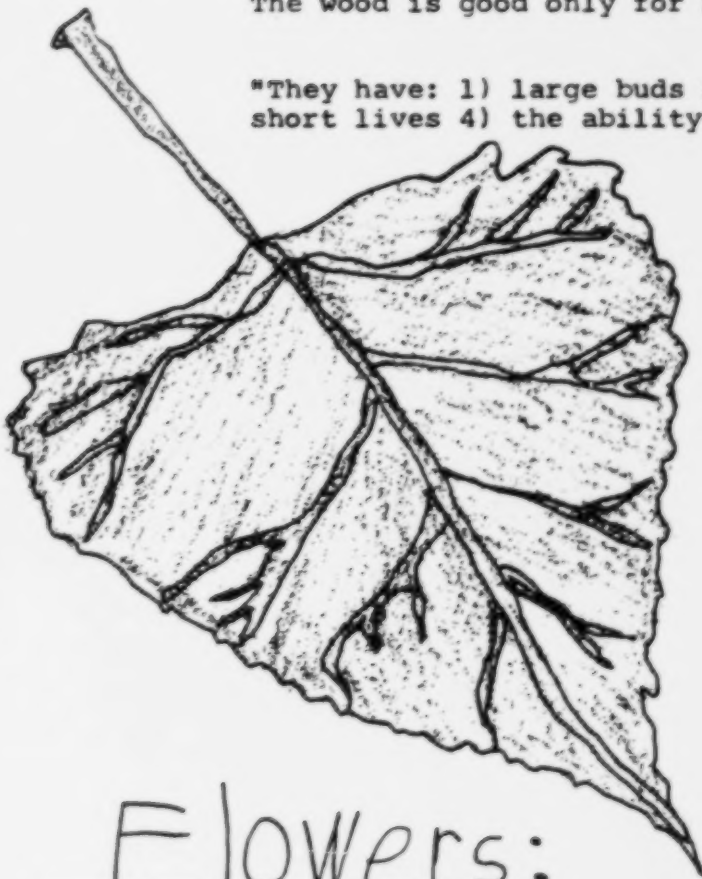
"Their roots can find wet water." Valerie Phillips

"The cottonwood tree belongs to the poplar family. The cottonwood tree can grow up to 100 feet tall. They are fast growing trees that can grow anywhere. The wood is good only for rough lumber."

John R. Kennedy

"They have: 1) large buds 2) wide spread roots 3) short lives 4) the ability to survive in poor soil."

Jessica Schutz



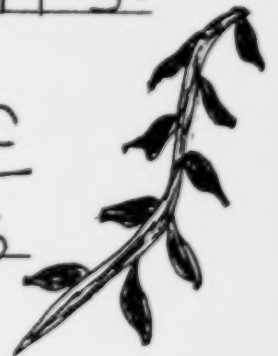
alternating
leaves

Flowers:

Fruits:



Branch of
seed cases



closed



catkins

breaking
open



Illustrations by John Kennedy

TULIP

"The tulip tree is the tallest of our common trees. The branches begin high up on the trunk, so that you can not reach a leaf. The leaf is shiny, green and smooth edged. The upper part looks square. The outline of the leaf is like the shape of a tulip. In May and June the tree has beautiful greenish-yellow flowers with a dot on each petal. These flowers are like tulips. In the fall, the leaves are golden yellow. The bark is orange brown."

Margaret Rocco

BLACK LOCUST

"The black locust tree is large. It is 80 feet tall. It has a black bark. It grows in North America."

Jordan Heffez

HORNBEAM TREE

"The American Hornbeam, Carpinus caroliniana, is also known as the Blue Beech. Why? Because of its smooth, blue-gray, muscle-like bark....It is a low tree; it prefers moist soil along river banks or low ground. The light brown wood is tough, hard and heavy and is used for handles and wherever hard wood is needed."

Matthew Lima

AILANTHUS

"The Ailanthus has big bunches of rust-red seeds in Autumn. In early June the Ailanthus blooms with small yellow-green flowers. When its leaves are crushed it smells like the grass was just mowed."

Melanie Glickson

"It will thrive under extremely adverse conditions, growing as much as 8' in a year. Annual sprouts 12' long are not uncommon where a tree has been cut down. Since it is adapted to disturbed sites, even a crack between bricks in an alleyway may provide a seedbed for this plant."

Timothy Nolan

"The Ailanthus tree is a tree of crowded places like New York City....The Ailanthus has thick twigs all pointing toward the sky. That is why it is sometimes called the tree of heaven."

Gregory A. Melnick

WILLOW

"The twigs are soft, thin and bend easy. The branches are used to make baskets and furniture. They make good whistles too."

Pamela Boltax

"Willow trees are deciduous. This means that their leaves fall off in the Autumn. They have long, skinny branches with long, very narrow leaves. They grow next to streams or rivers and bear catkins which produce tiny pods with silky down attached."

Christina Pentlow

WILD CHERRY

"This tree loses its leaves in fall. It grows to be 50 or 60 feet tall."

Nicole Tzougrakis

"The leaves and buds are alternately arranged on the stem."

Dino Papachristopoulos

MULBERRY

"There are three kinds of mulberry trees. The white mulberry tree grows in China. The silkworm eats the leaves of the white mulberry tree. He makes silk thread in his cocoon. Then people take the silk and make fabric."

Antoinette Schindel

"The black mulberry tree comes from Persia. The black mulberries are used to make jam, wine and other foods."

Andrew Grabon

"The Red Mulberry is the biggest. It is native to the U.S.A. Songbirds like to eat its berries."

Brian Herz

"The leaves are shaped like a heart. They have a purple fruit that looks like berries....If you pluck a leaf, a milky juice will be seen."

Jason Strassberg



LEAF



Jason Strassberg

PIN OAK

"The twigs of the bare tree in winter look like pins in a pincushion. That's why it is called pin oak. The glossy green leaves are about 12 centimeters long. They have 5 to 7 deeply cut lobes and turn scarlet in Autumn. The dark brown acorns are enclosed at the base in a thin cup."

Earl Maneein

"The pin oak has a Latin name, which is Quercus palustris. Quercus means oak and palustris means "of the marshes." Its trunk grows thin and straight as a pin. The pin oak grows rapidly. Its acorns are food for wood ducks, wild turkeys and blue jays. It grows in many city parks and I see pin oaks at my playground."

Marykate Meehan

WILD CHERRY

"For many and many years ago, the wild cherry has been grown in the gardens and its seeds distributed by birds. So that today, it is found growing in almost all over places of the eastern half of the temperate North America."

Camille Bersamin

"The smooth brownish bark on young trees becomes cracked into rough plates as the tree matures. The leaves are thick, narrow, tapering and shiny green. It has clusters of small white flowers which become cherries. The wild cherry is also known as the rum cherry. In colonial times, the fruit was used to flavor rum."

Chris Conover

Trees are used for making furniture.

Trees are used to make carvings.

Trees are used for shade.

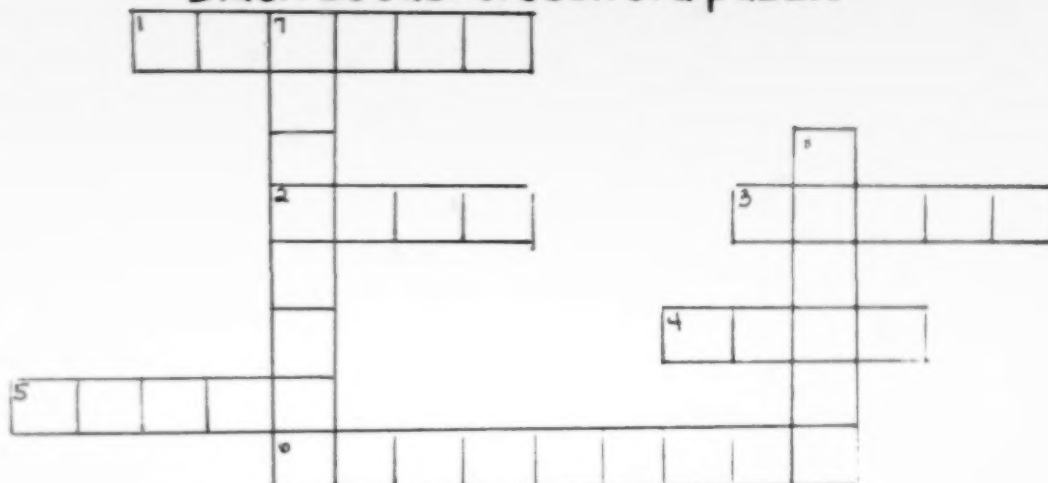
Trees are used to make paper.

Trees are homes for animals.

Trees make me happy because they
are colorful and fight pollution.

Joshua Schechter

Black Locust crossword puzzle



ACROSS

1. I share my name with this insect.
2. My fruit looks like bean _____.
3. My flowers are creamy _____ in color.
4. My wood is _____, strong, and durable.
5. My bark is dark _____ and deeply furrowed.
6. I lose my leaves once a year. I am a _____ tree.

DOWN

7. My leaves have several parts growing from one leaf stem. I have _____ leaves.
8. My twigs have sharp _____ on them.

Jonathan Simms

The Witch of the Willows and the Curious Children

By Shira Michal Albin Nussdorf

Characters: A young girl

A young boy

The Witch of the Willows

Setting: A beautiful garden with a magic lake.

BOY: What's the secret?

GIRL: I'm not telling. Just keep walking and you'll find out.

BOY: What is in that little house? I never saw it before.

GIRL: It's a surprise. Let's go closer.

BOY: I feel as if I'm rising off the ground. What's happening to me?

GIRL: Don't worry; we have magic flying powers.

BOY: Wee! This is fun!

(Suddenly a witch jumps out on the roof of the house and greets the children as they fly near the roof. They land on the roof as she sings a friendly song.)

WITCH: The willow, the willow, the wonderful willow. It's such a very nice sight. I'll take you there and you will fly up high in the sky as a kite.

GIRL: May we come with you?

WITCH: It's very far.

BOY: We're not tired. And we promise to follow you.

WITCH: Are you sure you want to go away from home?

BOTH CHILDREN: Yes!!

WITCH: We'll be travelling to different parts of the world to see the many different kinds of willow trees. Willows are my specialty. What is your favorite kind of willow?

BOTH CHILDREN: Pussy willows - they are furry like cats.

Witch: And catkins is the very name for the soft, grey part of the pussy willow.

BOY: Do pussy willows grow in China? I would like to go there.

WITCH: We don't have to go that far. Pussy willows grow in Northern America, especially in the North East.

GIRL: That's where we live!

BOY: But I want to go to China.

WITCH: Don't worry, we'll go there to see the Weeping Willows; that's where they come from.

GIRL: But I see lots of weeping willows in New York, near lakes and streams.

WITCH: The weeping willows were brought to America from China and India. Now they live here too. There are 325 different types besides the pussy and weeping willows.

BOY: Where do they grow?

WITCH: In the wet ground of California, Western Canada, Southern United States, Mexico, China, and India too.

GIRL: And in New York.

BOY: What a wonderful trip this is going to be.

GIRL: Maybe we should get our parents' permission.

BOY: We don't want to get in trouble.

WITCH: Don't worry... Think of all the fun you'll have.

BOTH CHILDREN: We really don't want to get in trouble.

WITCH: But I have secret, magic powers to protect you. Just follow me.

GIRL: But you're not our parents. Let's go home. It's getting late.

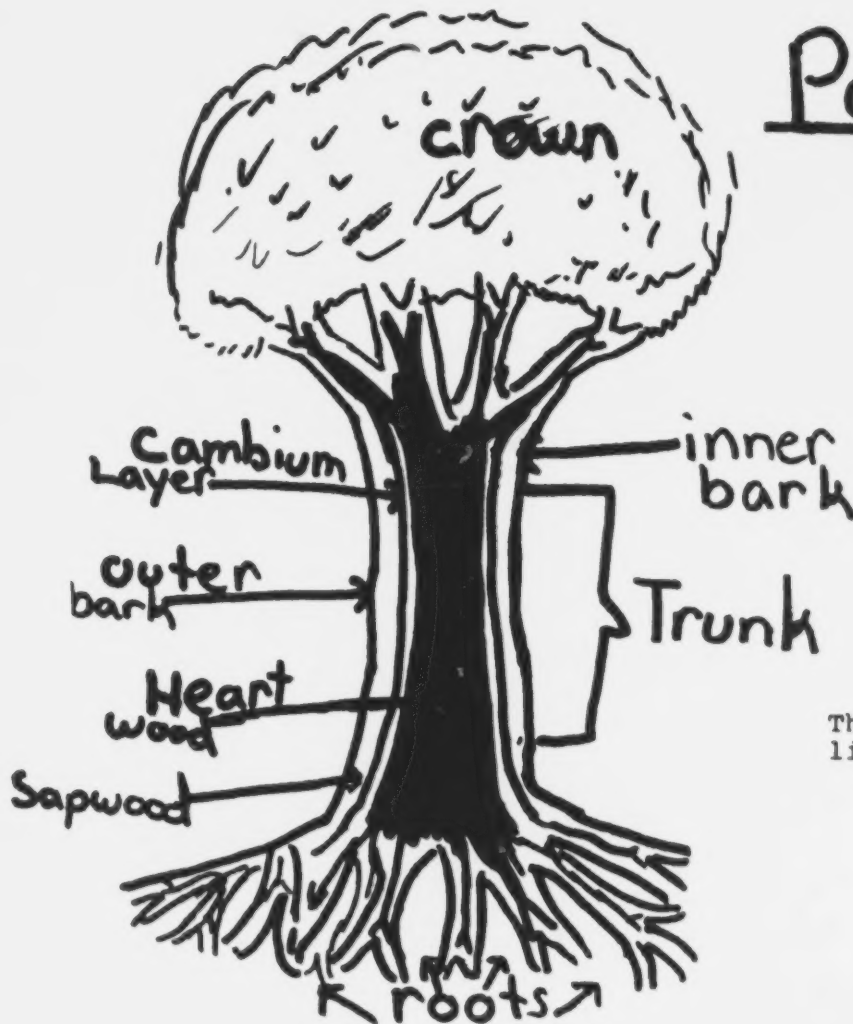
WITCH: But what about the willows? Don't you want to visit China, India...

BOY: Of course we want to learn as much as we can about nature, people, and different countries, but for now we'll have to learn new ideas at the library.

GIRL: Bye for now, and thanks for all your help. See you at the library.

Draw a picture of your favorite tree.

Parts of a Tree



The crown is leaves and branches or twigs. Makes food for the tree.

The trunk contains "pipe lines" for sap and water.

The outer bark protects the tree.

The inner bark carries liquid food to the cambium layer.

The cambium layer grows new wood and bark.

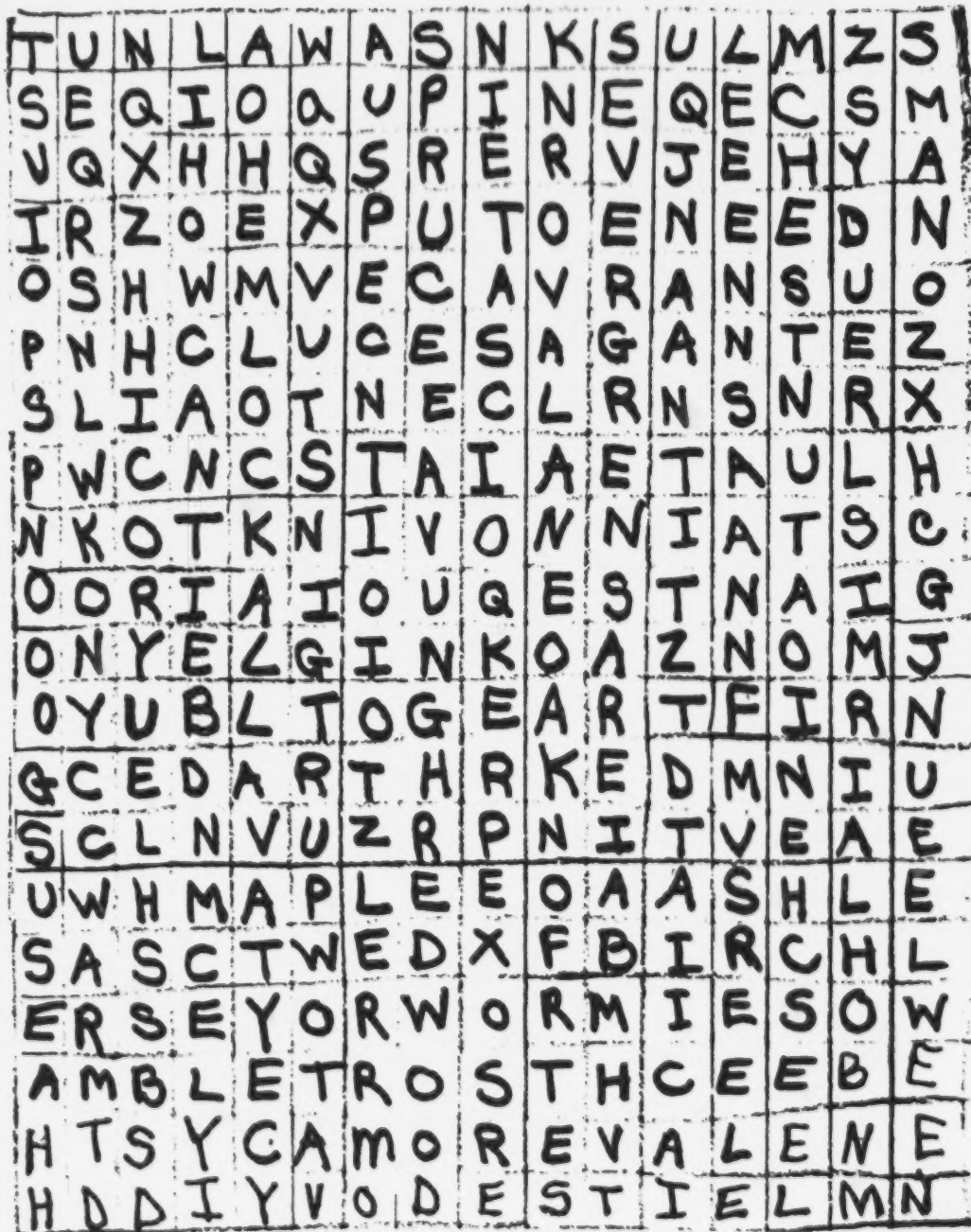
The sapwood is the youngest, softest wood in the trunk. It carries water to the leaves.

The heartwood is the oldest, hardest wood in the trunk.

The roots absorb water and food from the soil through tiny root hairs. Roots also anchor the tree to the ground.

Kara Reyes

Trees



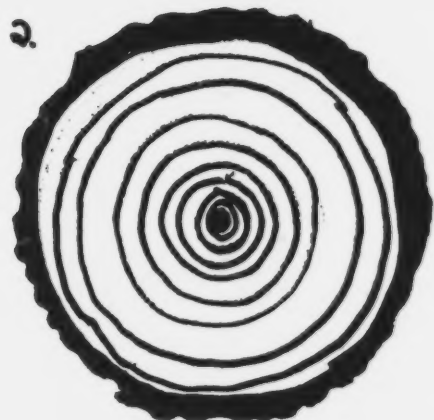
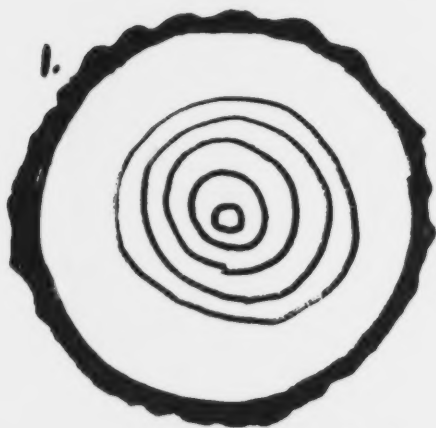
Find
these
words:

SPRUCE
PINE
EVERGREEN
MAPLE
CEDAR
REDWOOD
GINKGO
OAK
BIRCH
HICKORY
CHESTNUT
FIR
SYCAMORE
DOGWOOD
WALNUT
ELM
BEECH
HEMLOCK
GIANT
SEQUOIA
WOOD

by:

Find the hidden words.
Look in all directions.
Good Luck!

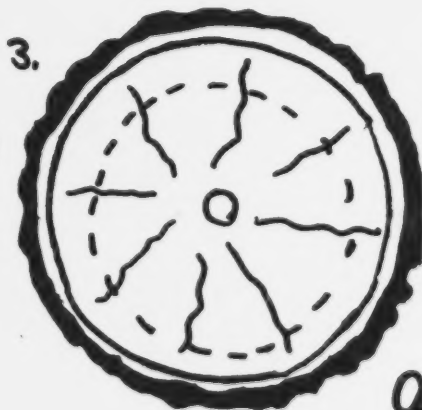
Christine Staiano
+ Friends



Both diagrams (1+2) tell how old the trees are.
Diagram 1 is 5 years old. Diagram 2 is 9 years old.

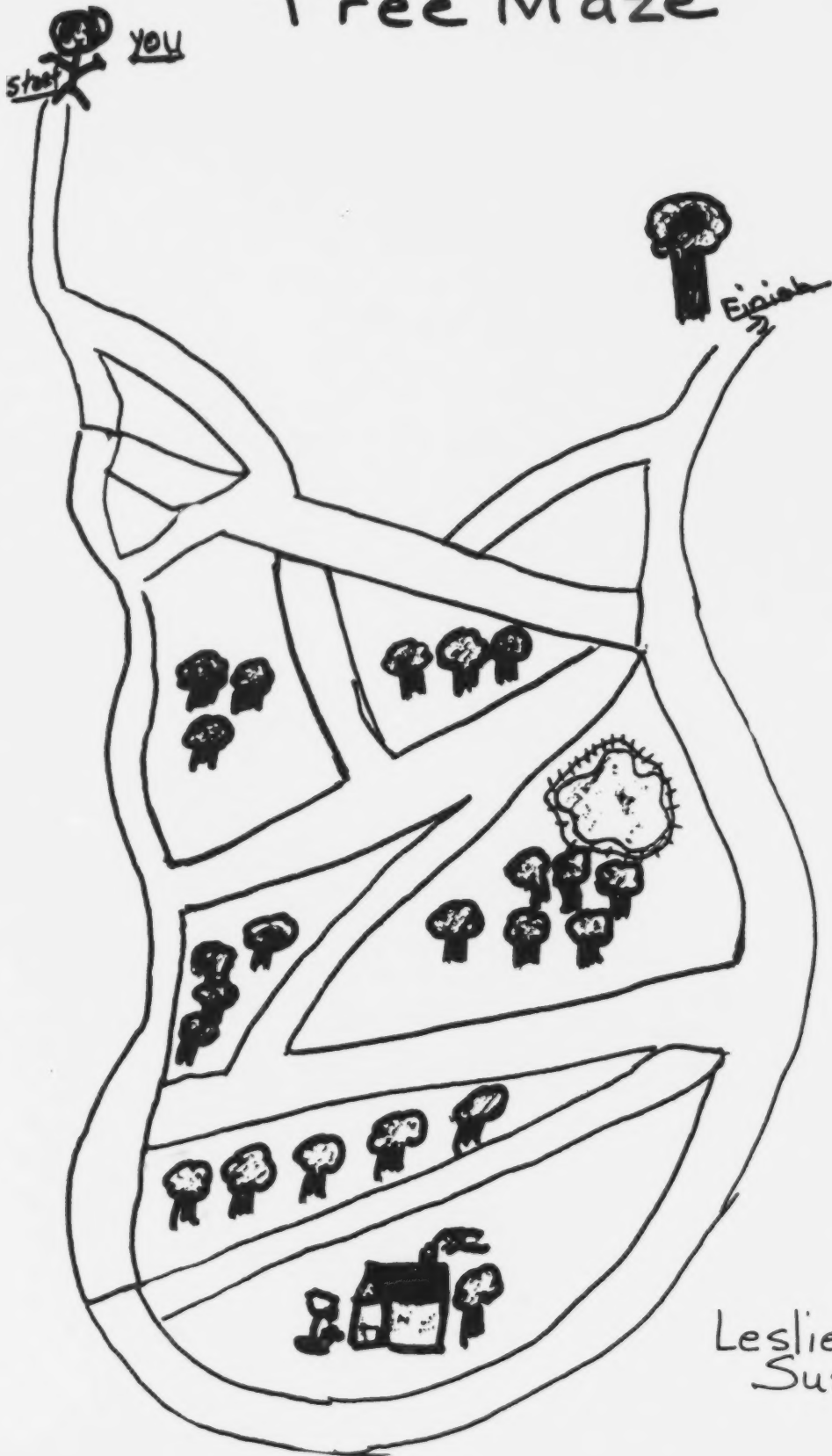
Study of tree rings is called dendro-chronology. Tree rings tell how old the tree is, and also the history of weather. Some trees have different markings; example, picture 3. There are special tools used to cut out the center of the trunk without hurting or killing the tree. The man who found all this is Andrew Ellicot Douglass. He was born in Vermont and went to the University of Arizona.

The diagram shows a cross section of a tree.



Ann Marie Long

Tree Maze



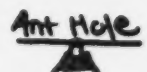
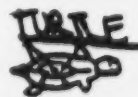
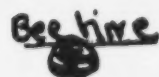
Leslie
Sussman

Find The Pictures

(All of Animals)



Look For These



HIDDEN WORDS - TREES AND BIRDS

K	O	A	F	P	M	L	O	W	L	M	B
W	V	Z	P	A	S	S	V	D	A	K	O
P	I	L	V	O	S	E	X	Y	U	M	A
L	V	M	A	P	L	E	J	B	O	D	Y
J	U	O	W	L	R	S	A	L	A	O	E
F	L	M	O	M	C	E	F	G	K	G	K
M	T	Y	O	W	R	A	U	Y	L	S	R
O	U	P	H	A	O	G	N	L	K	E	U
V	R	N	F	Y	W	U	A	M	K	O	T
K	E	W	A	R	T	L	T	H	E	I	D
D	U	S	P	A	R	L	L	J	Y	O	L
J	K	L	F	D	S	A	P	I	U	T	I
Q	W	E	R	T	Y	U	I	O	P	A	W

Find these words:

maple	oak
ivory	owl
sea gull	eagle
vulture	crow
sparrow	wild turkey

Tree Maze

Take the
bird to the tree.



Finish

Joshua Sun

WETLANDS

THE MAIN FLORA OF WETLANDS

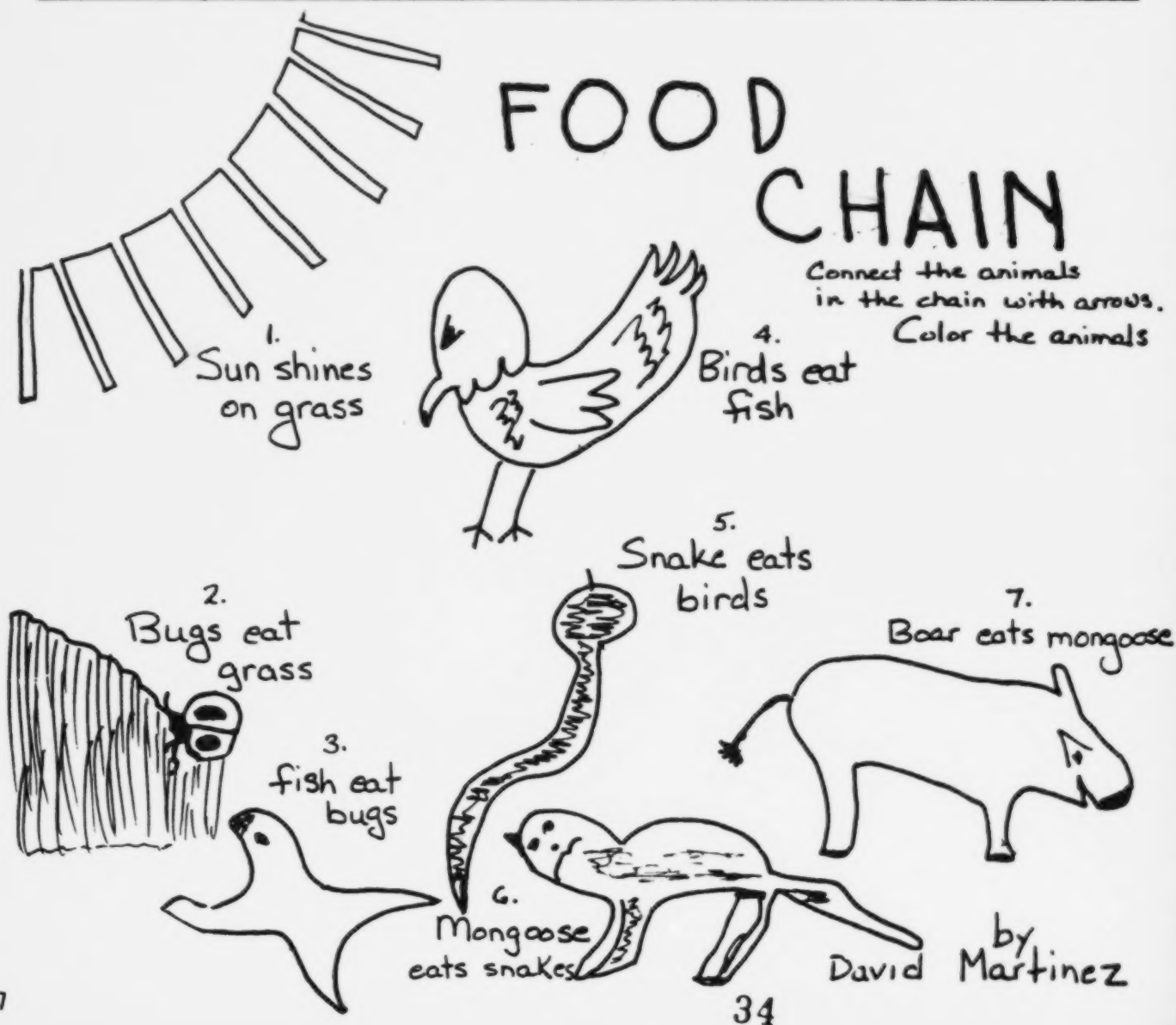
The predominant vegetation of marshlands is comprised of grasslike plants such as sedges and rushes. Cord and salt reed grass grow in salt water, saw grass and reeds in brackish to fresh water, and Indian rice and giant cane in fresh water.

A good example of a marsh in the United States is the Everglades of Florida. This marsh is the largest and shallowest in America. This marsh is more than 5000 square miles. It is usually no deeper than 9 inches. It stretches about 100 miles, from Lake Okeechobee to the tip of the Florida peninsula. (Christopher Provenzano)

Bibliography- Encyclopedia Britannica, Inc. (1968)
Young Students Encyclopedia (1977)

FOOD CHAIN

Connect the animals
in the chain with arrows.
Color the animals



A Marsh At A.P.E.C

A marsh, isn't it green?

No its white!

All the little animals all around the place

Hold them, take them home

Maybe they'll die, too bad!

The marsh, so polluted

I hope it gets clean.

by
Jon Gilgoff

FIND THESE WORDS:

SALT MARSH

MARSH MALLOW

SWAMP

CATTAILS

LILIES

GRASS

SEDGES

BUGS

A.P.E.C

A	O	U	C	M	V	B	J	S	W	I	J	V
C	B	R	S	A	L	T	M	A	R	S	H	W
D	C	S	L	N	W	C	K	P	X	M	K	X
E	A	T	D	I	X	D	L	E	Y	A	L	Y
F	T	U	E	O	L	D	M	C	Z	R	M	Z
G	T	V	F	P	Y	I	N	T	A	S	N	A
H	A	W	G	Q	B	E	E	U	B	H	O	B
I	I	X	H	R	U	F	E	S	C	M	P	C
J	L	S	E	D	G	E	S	W	D	A	Q	D
K	S	Y	I	S	S	A	O	A	E	L	R	E
L	P	Z	J	T	R	G	P	M	F	L	S	F
M	L	A	K	G	Z	H	Q	P	G	O	T	G
N	Q	B	L	U	A	I	R	V	H	W	U	H

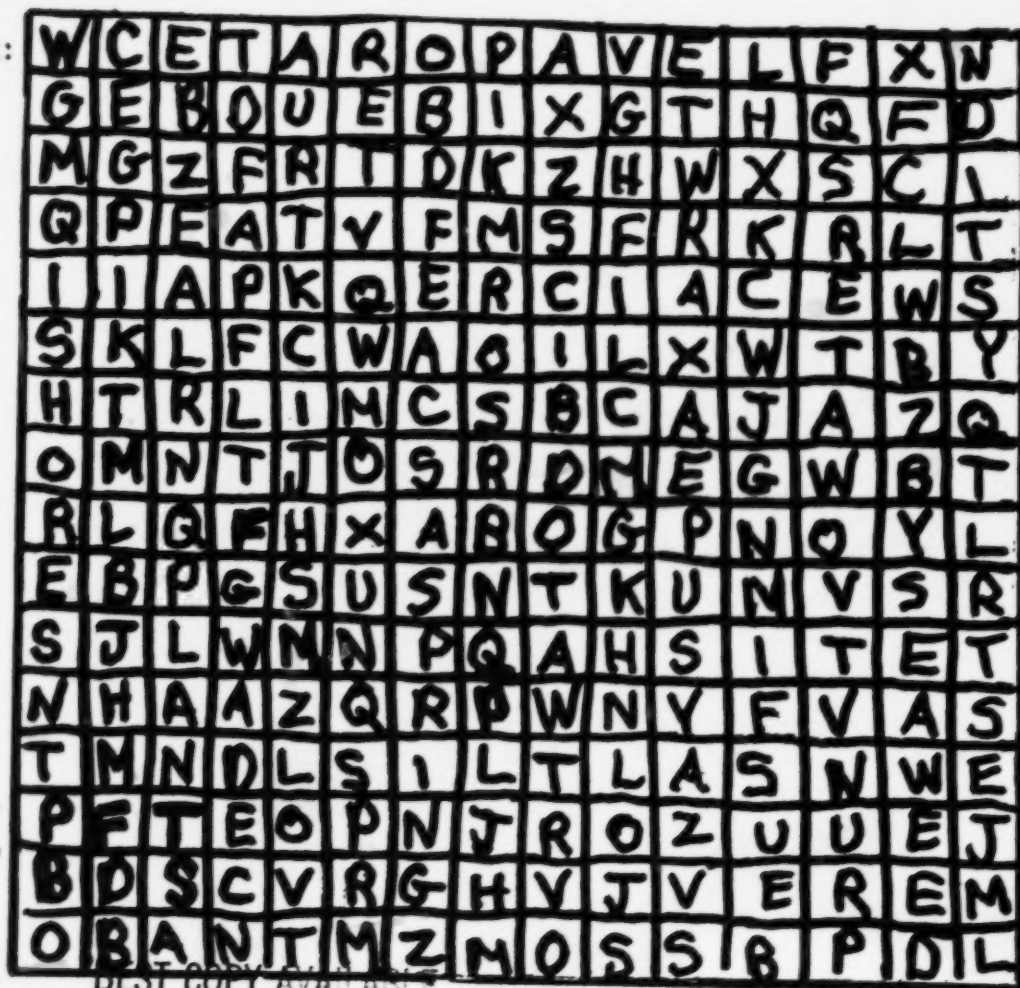
Plants Living on the Salt Marsh

A marsh is an area of soft, wet land. It is almost all covered up with water. It does not have any trees. A salt marsh should have plants like these: many grasses, sedges, cattails, lilies and other plants.

Alexandria Mamakos

Find these words:

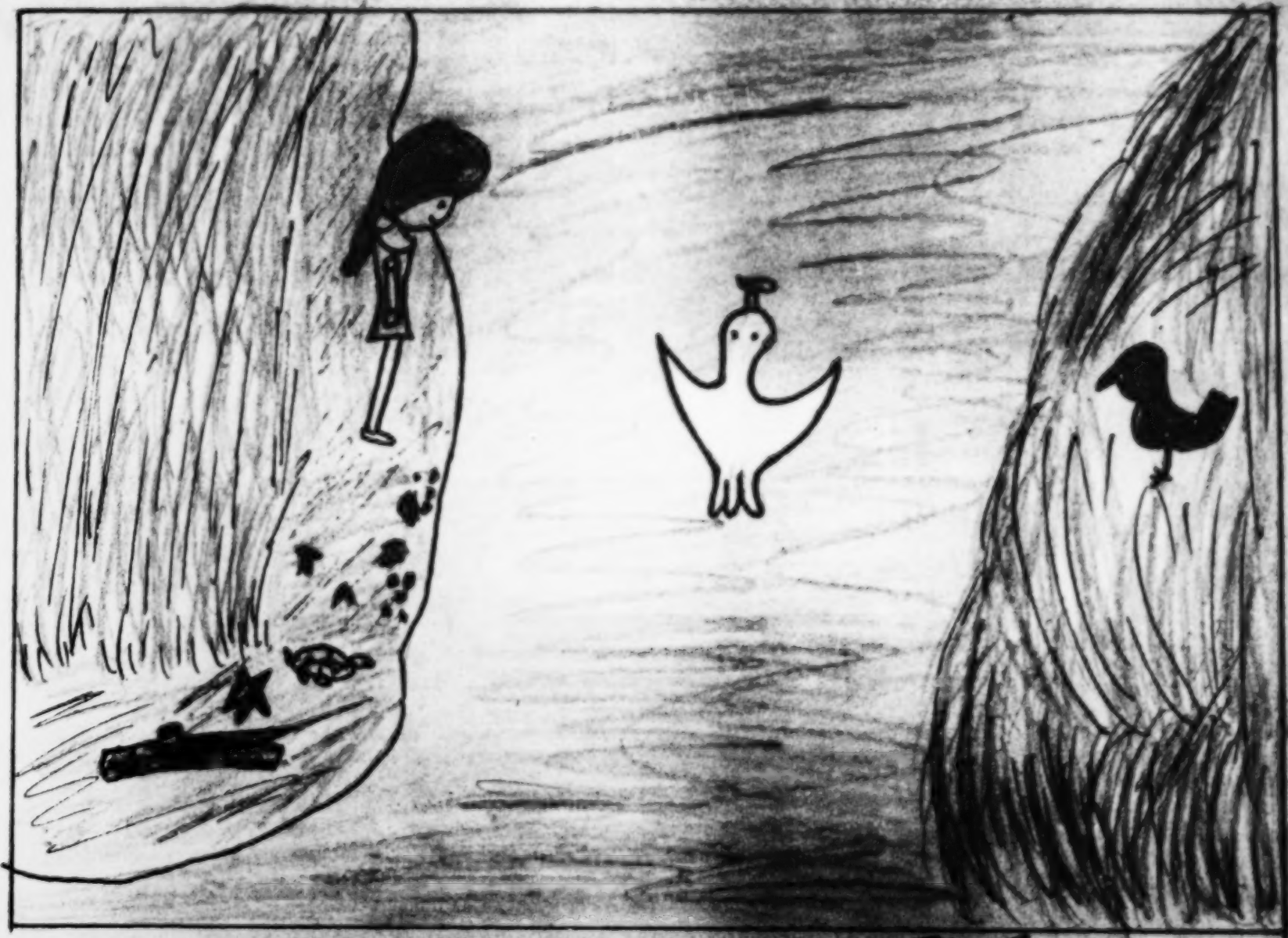
MARSH
SALT
WATER
SWAMP
BOG
SEAWEED
EVAPORATE
PLANTS
PEAT
SPRING
TIDE
SHORES
RICE
WET
MOSS



Words can be up,
down, backwards,
or diagonal.

Kimberly Walla

BEST COPY AVAILABLE



Toby Soller



FUN With...

"Turtles"

What is a Turtle?

Any of a group of reptiles found on land and in fresh and salt water, having a low, wide body enclosed in a hard, protective shell and a toothless beak with sharp edged jaws. On the average, turtles have a longer life span than any other animal with a backbone, some living to an age of 130 years. Wow! That's O-L-D.

Serena Washington

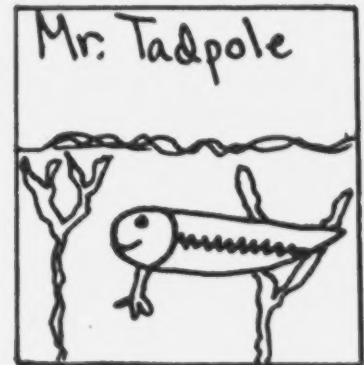
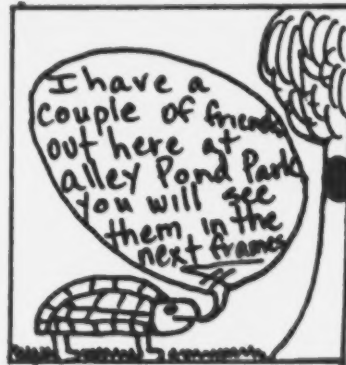
Can you match the picture with the name?

Directions:
Place the letter that is next to the turtle's name under him in the box.



B diamond back Turtle
A Box Turtle
C Painted Turtle

The Adventures of Mr. Turtle



2 hrs.
Later
at →
the
Pond



Box Turtles

Because of a broad hinge across the forward third of the plastron, (Bottom Shell) box turtles can draw up their lower shell inside of the carapace (Top Shell). In this way they can completely "box" in all of the soft parts of their bodies as a protection against enemies. These turtles are favored as pets. They have a friendly disposition and can be freely handled. They are often seen roaming through woodlands and fields, particularly after a heavy rain, seeking insects, worms, berries and green vegetation. They are not aquatic, but they do not hesitate to enter the water and sometimes are found bathing

Kevin Grimes

How many words can you make out of

"Diamond Back Terrapin"

By
Jessica Fry

Answers next page

25 - good

75 - Excellent

50 - very Good

75 and over - Super

Painted Turtles

Jessica Fry

This is one of the more common pond turtles that are often seen sunning themselves on a log in the middle of a pond. When they are bothered, they quickly slide into the water and bury themselves in the bottom of the water. The stripes of yellow and black on the head are the reason for the name "Painted Turtle".

Can you unscramble these words? Answers underneath.

EPDIBAKCANRORADIMNT
(Diamondback Terrapin)

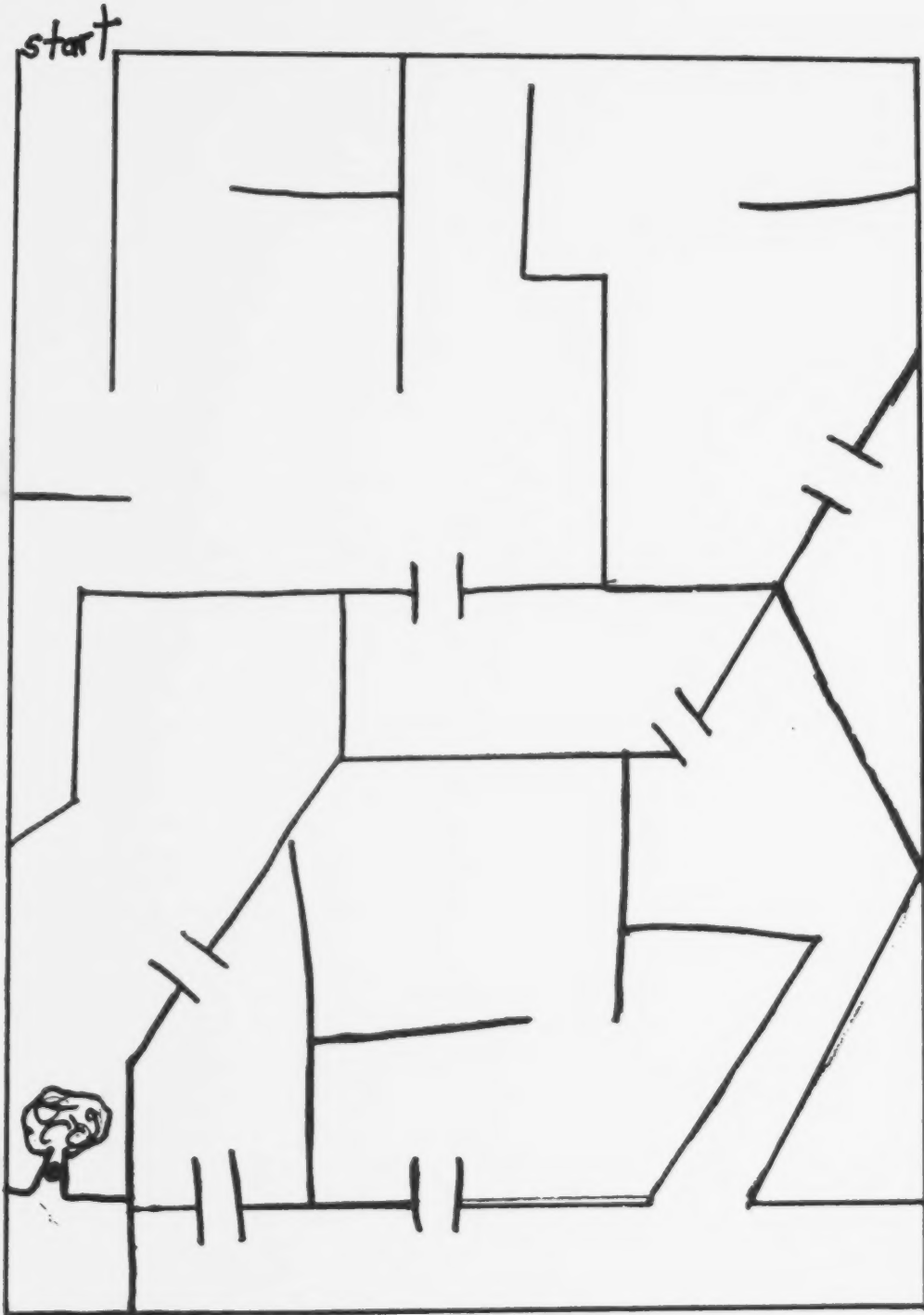
TPDENTRIULASNE
(Painted Turtle)

TTELOXURE
(Box Turtle)

Answers to Diamondback Terrapin Puzzle

Diamond	pack	mop	rat	dot	ore	rape	cart	nic
back		and	mat	to	more	ape	tar	dame
rap	mack	mare	bat	tea	rare	date	tart	cane
Top	Die	deer	cat	an	oar	pie	bar	name
ear	Dead	Dear	Pat	a	mane	tape	bark	can
pin	in	Dare	pan	are	main	cake	dark	
on	mid		man	red	time	rake	mark	bare
one	dim	mike	ran	and	time	make	Kick	bear
rack	Tear	bad	bed	enter	paw	take	pick	core
35 Tack	Top	pen	not	or	pain	dart	tick	into

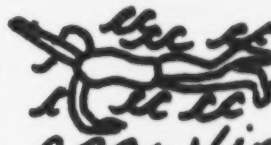
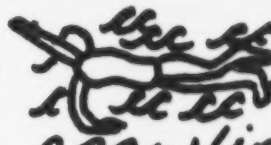
Help Mr. Turtle get home



TURTLE MESSAGES

A  's habitat is on  and ~~the water~~.  find  in and around ponds and streams.

They are excellent  even though they have  a heavy

.  You may see them  in the ~~the water~~ or just crawling on a , and under a .

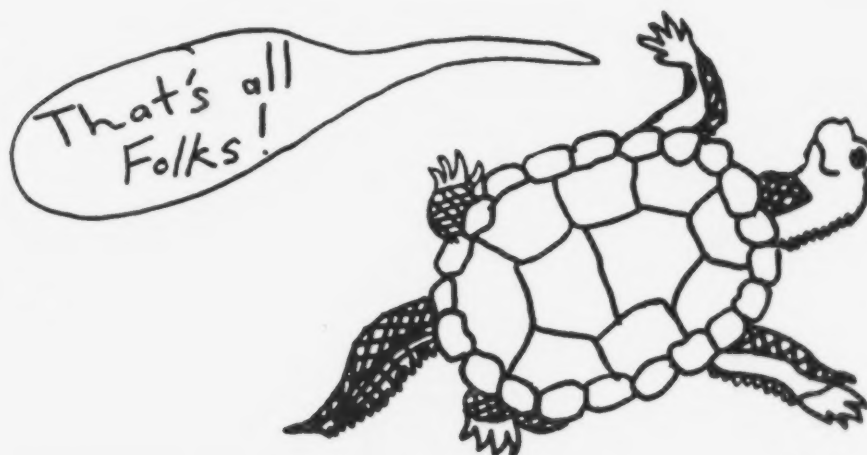
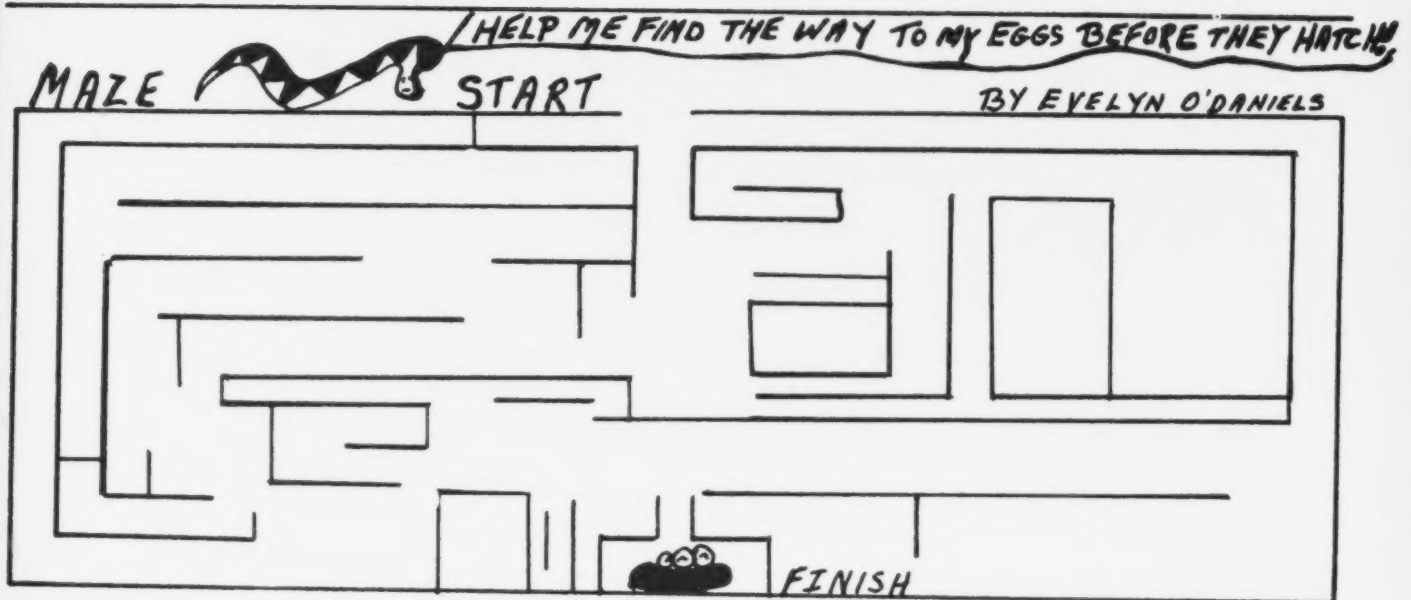
A turtle's life span is 100-150 years. A turtle hibernates in the winter. They eat plants, small fish, and insects.

Mother s lay their eggs in the sand or mud. The eggs are left alone to be hatched by the . When the eggs hatch the baby s crawl into the water.

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Snakes

Slithering, silky, slimy, scaly,
Biting people very rarely,
Slim and stringy, small, scary,
Let us see how they vary.
Shedding skin, giving venom,
Out even so, it's cruel to kill them.
Though their skin feels really rough,
It isn't always very tough.
Slipping, skidding, sliding, skipping,
Seeing a snake may have you flipping!!!!



FOR GOODNESS SNAKES

One day a baby Garter snake was talking to a Black Rat snake and this is what they said

Garter Snake-What is our scientific name?

Black Rat- Our scientific name is Serpente

Garter-Where did that skin come from? (a skin lies on the ground)

Black Rat - Well, when my skin gets too tight I shed it and underneath there is a new one. I do this 3 or 4 times a year. This will also happen to you when you grow bigger.

Garter- Where do some snakes live?

Black Rat- We live in trees under bushes and in holes in the ground. We live at Alley Pond Park.

Garter- Do we lay eggs?

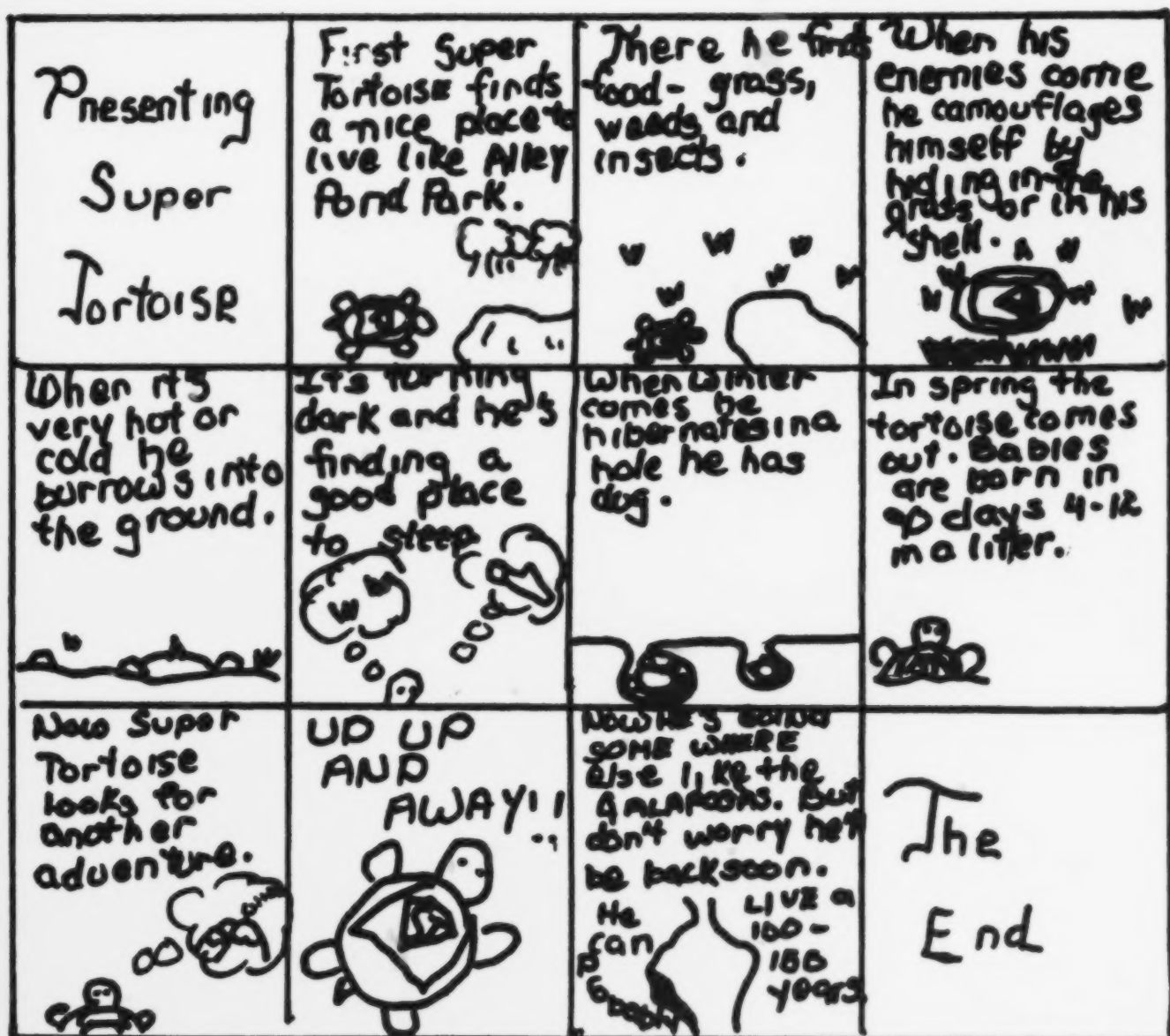
Black Rat- Females lay eggs. They bury them in the sand or leaves.

Garter- Why can snakes swallow things bigger than their heads?

Black Rat- Our jaw bones are loosely attached and open up very wide. That's why.

Garter- Thank you for all the information you gave me.

Reptile Fun



Interesting Facts

Many scientists rate the crow the cleverest bird. Scarecrows seldom fool the crow, which is a cunning corn stealer. (Amy Joyce Pecorino)... The first bird fossil ever found was a reptile-like bird that lived 190,000,000 years ago. This bird is called Archaeopteryx, which means ancient one with wings. (Lorne Jaffe)... The life span of sea gulls is 20 years. When not in flight or feeding, they always stand facing the direction from which the wind is coming. That's because they don't like ruffled feathers. (Sherri Gilman)... A bird eats more food in proportion to its weight than any other animal does. (Joey Rogove)... Male birds spend lots of time courting their mates. They display their bright colored feathers to the females. They serenade the females. The female usually does not have brightly colored plumage. (Melissa Schindel)... The bluebird is the State Bird of New York. (Donna Nadel)... The last Passenger Pigeon died in the Cincinnati Zoo in 1914. These birds were hunted for their food and feathers. Now they are extinct. (Laurie Cuomo)



A bird preening its feathers

Birds Feathers

Observe birds preening. When the bird preens, it zips up its feathers by drawing them through its bill. When you find a feather, examine it through a magnifying glass to see the zipper arrangement. As the bird preens, it also coats its feathers with oil that is produced by special glands on its body. This oil is very important. It is the bird's way of waterproofing itself. (Stacy Rosenberg)

Rebus - Birds' Names

1. + = _____ (by Kurtis Melnick)
2. + + er = _____ (Carina Markett)
3. + L + - R = _____ (Karin Meitner)

*Answers: 1. Nuthatch & Kingfisher 2. Starling 3. Kingfisher

Blue Jays

No other Eastern bird is like the noisy bluejay. It has blue feathers and a crested head. It is a relative of the crow. It is found in woods, shade trees and parks. In spring and summer its call sounds like, "Thief! Thief!", said over and over. When it is in a gentler mood, it gives a call like, "Do it! Do it!"

(Maria Biondo)

Birds are Warm Blooded

Birds are warm-blooded, like horses, dogs and cats. They can keep their bodies at the same temperature by cooling themselves when they are too warm and warming themselves when they are too cold. They are different from animals like fish and frogs which have bodies that are at the same temperature as their surroundings. (Dana Kayaian)

Birds

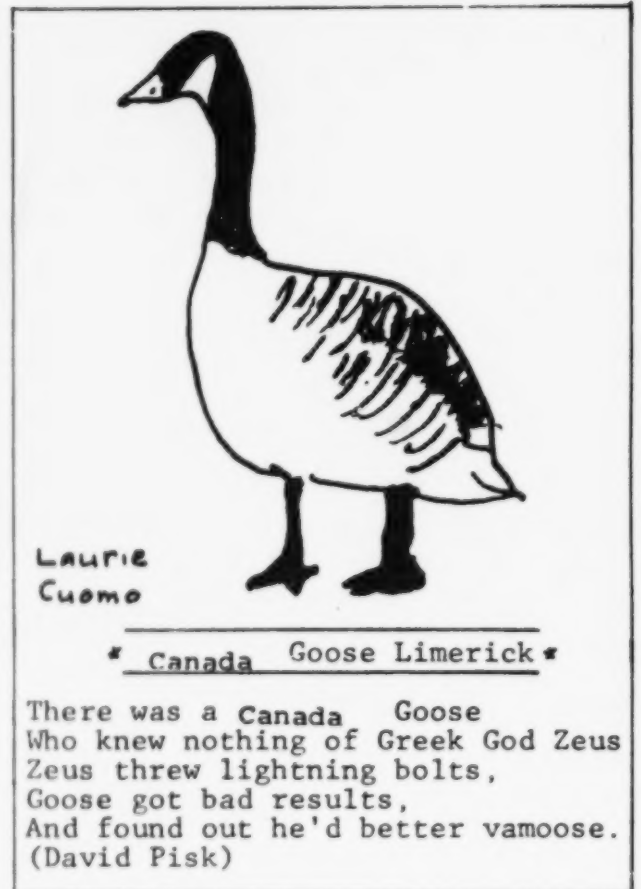
They're always flying -
I'm not succeeding, but I'm trying.
I'll have to quit - - -
I can't get my wings to fit!
(Julian Perlmutter)

Bird Calls

See the little birds way up high,
"Tweet! Tweet!" they say as they
go by.
The crow is very loud, "Caw! Caw!"
When it's very far away it sounds
like it's next door.
The towhee says, "Drink your te-e-e!"
At least that's how it sounds to me.
The chickadee says "Fee-bee, Fee-bee,"
It also says "Chickadee-dee-dee!"
(Lisa Levy)

Wings

There are four basic types of flight and there is a wing that is shaped most efficiently for each of them. There are wings shaped for skimming, gliding, short speedy flight and maneuvering.
(Jason Criss)

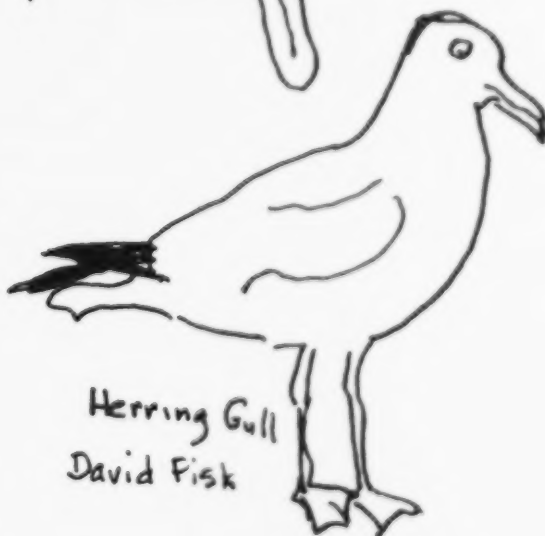


Functional Feet

Birds have either three or four toes on each foot. They never have five. Their feet are adapted for food getting, defense weapons, locomotion and nest building. (Oscar Sodani)...Wading birds (herons, etc.) have long legs, and long slender toes. Feet of perching birds (robins, sparrows, warblers) have tendons that automatically lock the bird to its perch while they are sleeping. Swimming birds like ducks have big webbed feet. Climbing birds have spreading toes with strong, curved claws. Birds of prey have powerful legs and strong feet with sharp, hooked talons for grasping and carrying their prey. (Denise Stokes)



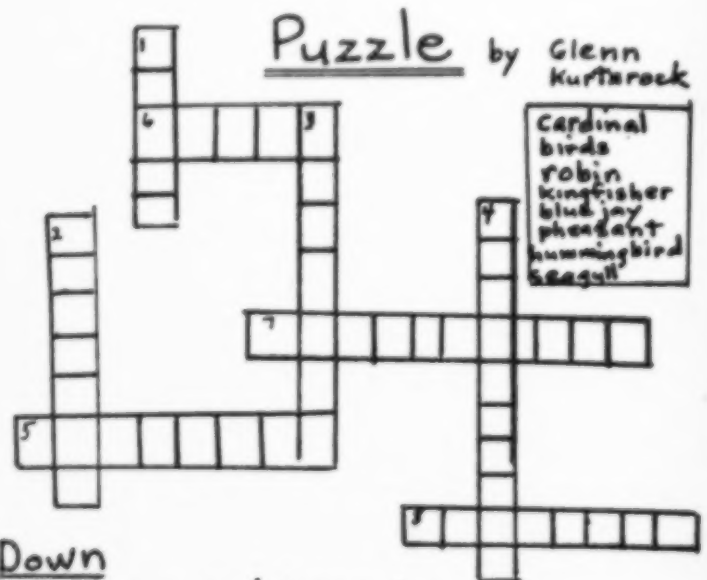
The Cardinal
by Donna Nadel



Herring Gull
David Fisk

What are Endangered Birds?

Birds which are getting so rare that there may never be any more of them are called endangered. Birds become endangered for many reasons. Unfortunately, the main reason is people! People are doing many things to endanger birds. They often destroy the place where birds live (their habitats). Habitats disappear when dams, power plants, factories and houses are built on them. Chemicals from factories and tree spraying kill birds and ruin their food chain. People kill birds for food and feathers. We must make peace with nature! (John Dandola)



Down

1. It has a red breast.
2. It steals other birds' eggs.
3. It lives near the ocean.
4. It gets its name from its habit of eating fish.

Across

6. Ornithology is the study of ____.
5. It has red feathers.
7. The smallest bird
8. Brilliantly colored game bird

Secret Alphabet Code

This is an easy code to learn. Each letter of the alphabet stands for a different letter in the code. For example, the code letter **B** stands for the real letter **A**; the code letter **C** stands for the real letter **B**; and so on. So the code word **IVSSZ!** really means **HURRY!** Study the alphabet code below. The **lower** letters are the code, except for #3, upper!

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A

Can you use the alphabet code to read this message? Write the answer in the space below.

- AHQCR RHMF RNMFR. _____
(Oscar Sodani)
- H RZV Z GTLLHMFAHQC. _____
(by Tiffani Banks)
- MPPL GPS B QMFBTBOU QIFBTBOU. _____
(by Reina Horowitz)

• Analogies •

- Marshlands are to birds as neighborhoods are to _____.
Ann Marie
- Ferraris are to cars as Hawks are to _____.
David Pentlow
- Birds are to wings as fish are to _____.
Sari Kaplan
- Canada Geese come to N.Y. as New Yorkers go to _____.
Maria Biondo
- Lions are to roaring as Robins are to _____.
Gary Noritz
- Bones are to birds as a wooden frame is to a _____.
Penella Saunders
- People are to houses as birds are to _____.

- | | | |
|-----------|------------|---------|
| 1. People | 2. Birds | 3. Pins |
| 4. Canada | 5. Singing | |
| 6. House | 7. Nests | |

The Gull That Has Everything

To spot food, gulls have keen sight.
For flight,
Their bones are hollow and light.
They wear warm down jackets for heat.
For swimming they have webbed feet.
(Ann Marie Richardson)

A Bird Poem

Little Bird, you can fly.
Bird, Bird, why can't I?
You fly in a flock, not a herd.
A herd for a bird
Would be absurd.
(Tyeisha Deas)

A sea gull is a bird
Whose squawk is absurd.
Like a person yelling into a mike,
His message is sure to be heard.
(Bret Edelman)

The World of Mammals At Apcc

Astor VI

P.S. 124Q
Miss Farley

Opossum

Baby Opossums are born in mid spring to the end of summer. When the young are born they are as big as a kidney bean. After they are born they crawl in the mother's pouch. The Opossum is the only marsupial (pouched animal) in north america. They will find milk in the mother's pouch. They will live on the milk for the first three months of their lives. After that they will climb on their mother's back until they are old enough to take care of themselves.

Opossums eat eggs, fruit and newborn bird hatchings. Full grown opossums have 50 teeth more than all other North American animals. Its enemies are hawks and eagles.



Raccoons As Pets

Raccoons are medium-sized mammals. Mammals are animals with hair on their bodies, their young are born live, and they feed milk to their young. Raccoons can be domesticated while young. This means that it can become a house pet.

Raccoons eat crayfish, frogs, eggs, and farmers' corn. Do you think the farmer likes the raccoon why or why not? _____

_____. Approach a full grown raccoon with caution. They will defend themselves. Do you think this is necessary? _____

Some Scientists believe Raccoons wash their food before eating. Some people say yes, others say no. What do you think? _____

MOLE MAGIC

READ THE SUMMARY AND THEN ANSWER THE QUESTIONS

The mole is an animal that lives underground almost all of its life. It cannot see well because its tiny eyes are beneath its fur. Moles can weigh from one and one half ounces to five ounces. The mole has a big diet that consists of worms, insects and other small creatures. The mole is a fast digger. It lives about one foot underground. In dry weather it digs deeper into the ground about two to three meters. The mole has big claws so it can scoop up the soil with ease. Moles live in Europe, Japan, America and Asia.



QUESTIONS

1. What do moles eat?
2. How deep into the ground do moles live in dry weather?
3. Do you think the mole is fast digger?
4. What insects do you think the mole eats?

UNSCRAMBLE THE WORDS:

OLEM

GUDNOERNUOR

OWRMS

SITCFEN

Facts About Bats

BIG BROWN BAT

The big brown bat has dark brown fur.
They have a twelve inch wingspan.
Most big brown bats live in caves (some in buildings).
They hibernate (sleep, that is) for the winter.

THE LITTLE BROWN BAT

It comes out near the end of twilight.
Little brown bats have an eight inch wingspan.
They beat their wings three times per second.
When one hangs upside-down it will rest or sleep for hours.
They live in caves or buildings.
Little brown bats also hibernate.

HOARY BAT

Hoary bats have a sixteen inch wingspan.
They are the largest bats in North America.
They have white hairs and reddish-brown underfur.
Hoary bats migrate (fly south) for the winter.

RED BAT

Red bats have a twelve inch wingspan.
They have white-tipped red fur.



by Jason P.

Some more batty Facts

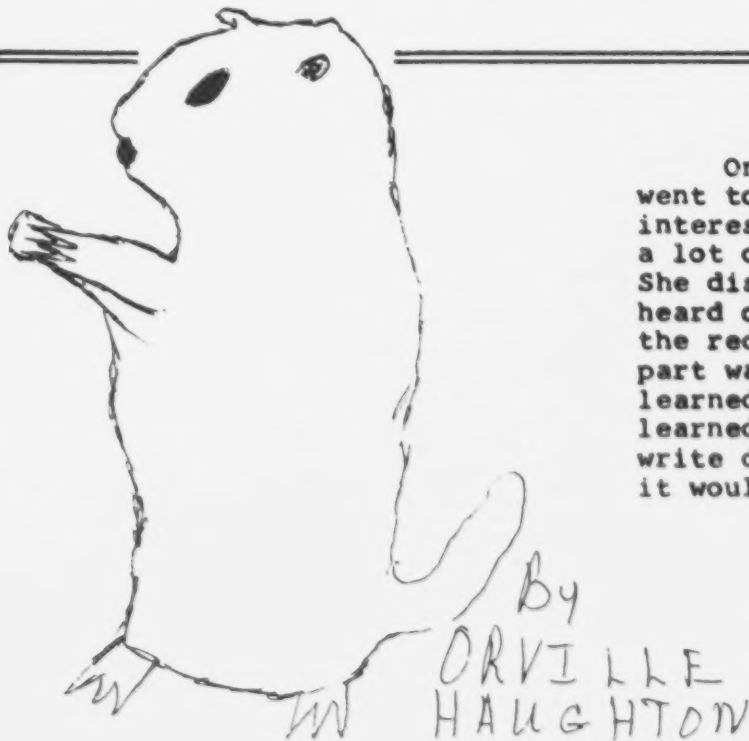
The bat is the only mammal that
can fly. Bats also have 'V' shaped faces.

by
Daniel I. Lieberman

Ground Hog Day at APEC

CLASS 5-202

P.S. 132
MRS. STEIN



APEC

On February 2, 1982, class 5-202 went to APEC. I thought it was very interesting. Elsa, the guide, told me a lot of things that I didn't know. She discussed animals that I had never heard of such as the field mouse and the red squirrel. The most interesting part was when we went for the walk. I learned a lot about muskrats. I learned a lot more but if I were to write down everything I learned at APEC it would take two pages.

(Jessica O'Brien)

GROUND HOGS

RODENTS

Rodents are gnawing mammals. The word "rodent" comes from a Latin word which means to gnaw. House mice, rats, squirrels, chipmunks, beavers, porcupines, hamsters and guinea pigs are all familiar rodents. All are famous for their gnawing abilities. They are just a few of the many kinds of rodents that live in the world today. Many rodents are the size of a rat or smaller. The biggest rodents are the beaver and the South American Capybara. The capybara sometimes measures four feet in length and weighs 100 pounds or more. Rodents are identified by their teeth. Many rodents are of use to man. Beavers and muskrats are valued for their fur. Many rodents are infested with fleas that carry various diseases.

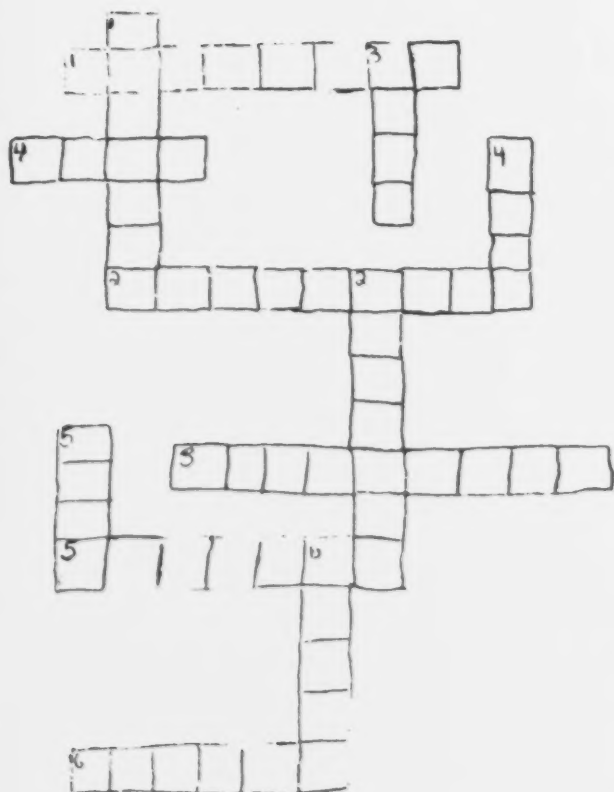
(Nadine Barnett)

The ground hog is in the rodent group. Most people call them woodchucks or marmots. The ground hog is a mammal and is in the squirrel family. When a ground hog is young, it grows up to two feet in length and twelve pounds in weight.

The ground hog lives alone in holes in the ground. Ground hogs have enemies such as hawks, foxes, coyotes and hunters. When a ground hog hibernates, he eats a lot during the fall and sleeps off the fat during the winter. A long time ago people believed in an old myth about the ground hog. They thought that if the ground hog came out of his hole and saw his shadow on February 2nd, we would have six more weeks of winter. Today some people believe it and some people don't.

You know, I'd like to own a ground hog. (Gilbert Michel)

THE A.P.E.C. VISIT



Puzzle By Jennaire Brackett

ACROSS

- 1 Big tall, thin weeds
- 2 An animal that glides and walks
- 3 Someone we see every Feb. 2
- 4 All animals need it
- 5 Some are scaly, and some are hairy
- 6 A _____ pig

Select A Word

cattails
groundhog
squirrels
home
animals
guinea

DOWN

- 1 Animals with hair or fur
- 2 Mice and squirrels belong to this family
- 3 Some animals live on water and some live on _____
- 4 Birds lay _____
- 5 _____ was our teacher
- 6 _____ was our tourist guide

Select A Word

mammals
land
rodents
Linda
Elsa
eggs

TAXIDERMISTS

Taxidermists are people who perform the art of taxidermy. Taxidermy is the art of skinning a dead animal, preserving the skin, and then filling it with something to make the model appear lifelike. In the old days the skin was stuffed with straw, sawdust, or some other substance. Modern taxidermists do the job differently. Instead of stuffing the skin, they stretch it over a model of the animal's body.

All animal models in such a museum are created by taxidermists. A taxidermist must be a highly trained and skillful person.

When a taxidermist starts to work on a dead animal he carefully studies the appearance of the skin - the fur, hair, or feathers and colorings. He then slits the skin and peels it off the animal's body. He prepares the skin in much the same way as leather is tanned. He dips the skin in chemicals that keep it from rotting and falling apart.

In removing the skin, the taxidermist must be sure to remove all bits of flesh and muscle and to make sure that the skin neither stretches or shrinks as he works. He is very careful not to tear or cut the skin anymore than he must in order to remove it from the body.

MY TRIP TO ALLEY POND ENVIRONMENTAL CENTER

I went to A.P.E.C. and learned something new.
I learned about a bird, the rabbit and different kinds of mammals.

I learned about the racoon, the opossum and other important animals.

After that we took a walk and walked a very long way.

Once in a while we'd stop and listen to what our guide had to say.

We saw a squirrel's nest, a dead rabbit, and two crows.

We also saw a racoon's droppings, some acorn shells and some water that froze.

When the walk was over and we had seen alot

Two photographers took a big snapshot!

After that we went inside to draw pictures of what we had seen.

When that was done I went to the guinea pig who seemed unfriendly and mean.

This trip was something I'll never forget and I mean it when I say never.

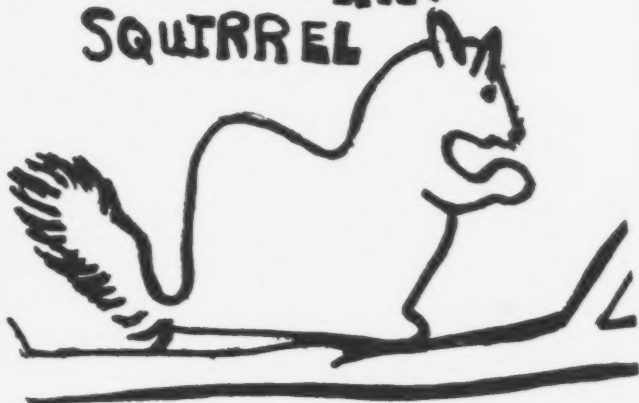
To me this trip was something special, it was the best Ground Hog Day Ever!

(Tina Ogletree)



Carla Modest

THE GRAY SQUIRREL



SQUIRRELS

There are many kinds of squirrels. There are Haibab Squirrels, Red Squirrels, Gray Squirrels, Giant Squirrels, and the Flying Squirrels. Their homes are in dens in hollow tree trunks and in sturdy nests built on branches of trees. At A.P.E.C. they have many squirrels' homes. They have the ones in the trees and on the branches of trees.

(Tracy Claus)

THE MUSKRAT

The muskrat is an animal that lives in swampy places near streams and rivers. Muskrats get their name from their unpleasant musklike odor. They live in many parts of Europe.

Muskrats are suited to life in the water. They use their scaly, flattened tails to steer in the water. The webbed toes on their hind feet help them to swim. Muskrats grow about one foot long and have a ten inch tail. Their light brown fur is sold as "Hudson Seal" after it has been dyed and the longer, coarser hairs have been removed. Muskrat meat is tasty and is sold as "marsh rabbit".

(Denise Jones)

THE COMING OF THE COTTONTAIL
RABBIT

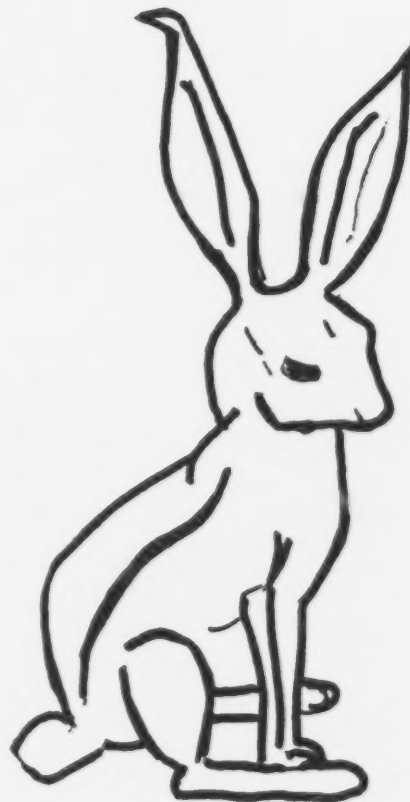
A long, long time ago in a rabbit village, far away from human life, rabbits were very much like people. All of the work was going smooth until a rabbit named Pete started to boss everybody around. None of the other rabbits like this, so they asked the science-bunny to put Pete in a deep sleep while they planted their cotton.

It took the science-bunny a long time to invent a formula to put Pete to sleep. Pete refused to take the formula, so they gave it to him while he was asleep in the cotton field. After a few weeks the rabbits were disappointed because the cotton did not grow.

They decided they should move to a different area to grow cotton, but the science-bunny did not have a formula to wake Pete up. They had no other choice but to leave him there because they could not wake him.

Years after they left, cotton started to grow where Pete was sleeping. When the cotton grew over Pete's eyes, he woke up! When Pete stood up, he removed all of the cotton except one piece that he could not reach behind him.

After a while the cotton grew onto him and would not come off! And that is why rabbits have cottontails and are called cottontail rabbits. It is also how people got "Peter Cottontail" and wrote a story about him for children.

RABBIT FOOTPRINTS

Rabbits are able to move quickly. The print below is how rabbit footprints would appear in the snow.

The hind feet are long and far apart. With each leap, the front feet strike the ground close together. The hind legs straddle the front ones and make the two tracks you see wide apart ahead of fore feet.

It looks as if it was a part of a leap-frog game!

ADAPTATIONS TO THE ENVIRONMENT

Hairs that increase the size of the feet are grown in winter by some animals that are obliged to travel in deep snow. The lynx, the fox, and the rabbit all have extra hair on their feet which helps them to move about on soft snow to find food or to escape from their enemies.



The conspicuous white hair patches on the tails or rumps of some animals often serve as a signal to warn other animals of the same species that there is danger approaching.



The cottontail rabbit has a white tail that is noticeable when these animals are running; at other times they are not so conspicuous.

JUNIOR FUN THINGS TO DO

- 1- Read Peter Rabbit and tell the class about it.
- 2- Make a list of all the words having to do with rabbits. Challenge your classmates to think of more words than you have.
- 3- Make a story book about rabbits.
- 4- Visit rabbits in Pet Shops and write a story.
- 5- Find out how you would care for a pet rabbit.
- 6- Write a play with some friends about rabbits and perform it in school.
- 7- Make a picture book of rabbits.

Find these words hidden in the puzzle - look in all directions -

- rabbit
- carrot
- hare
- celery
- cotton tail
- lettuce
- Bugs Bunny
- banana

A	B	C	E	L	E	R	Y	X	E
R	U	A	N	A	N	A	B	T	R
D	G	R	A	L	C	B	O	E	A
B	S	R	T	E	A	B	A	R	H
U	H	O	N	C	R	I	N	N	Y
C	O	T	T	O	N	T	A	I	L
B	U	G	S	B	U	N	N	Y	E
L	U	L	E	T	T	U	C	E	Y

Rabbits usually try to hide from their enemies. If a rabbit is in the open when an enemy approaches it may sit still and wait for it to go away. If the enemy comes too close, the rabbit dashes for safety. A frightened rabbit can leap 10 feet or more and can travel as fast as 18 miles an hour.

But it can only go short distances because it tires quickly. The rabbit tries to confuse its enemies by zigzagging left and right. It sometimes circles back and follows its own trail for a short distance and then leaps off in another direction. The rabbit may leap into a burrow or a pile of brush to escape.



BUTTERSCOTCH

One night a short time ago, a new Big Apple minute commercial flashed on the screen. It introduced a new personality to the annals of N.Y.C. entertainment.

The new star's name is Butterscotch and she is employed at APEC as Resident Rabbit.

Where did the newest TV star come from? Her story is strange but true. Two years ago APEC purchased a tiny, butterscotch colored rabbit who was immediately loved by everyone. What should this new little rabbit be named? They searched and searched for just the right name. Then suddenly someone came up with an original name! Why not call her Butterscotch?

How wonderful and original, everyone cried and so Butterscotch became her name.

Butterscotch soon had the run of APEC. Everyone loved her and children flocked to APEC to welcome Butterscotch.

Her home is a large comfortable cage that has both a cozy covered sleep room and an open play area. Butterscotch visits with all the visiting classes as long as they are quiet and don't yell around her. Weekends we may find Butterscotch visiting her friend, Aline Euler. Her diet consists of raw vegetables and raw fruits. Her weakness is for bananas. Butterscotch adores them!

Being slightly overweight, Butterscotch is frequently seen laying down. It takes a lot of energy for someone to pick her up and cuddle her.

Oh well, being a gorgeous TV star is very hard to take!!!!

REPRODUCTION

A rabbit is a placental mammal who has evolved a more efficient method of nourishing their embryos. The embryo remains inside the mother's body during development, nourished by food carried by the mother's blood.

Young rabbits are born in a secure burrow. They are blind and naked when born after 31 days of gestation. The baby Cottontails live in a warm secure nest, all together. The baby rabbit is called a "kit".

The kits are small, blind, hairless creatures that cannot move about. They stay in an underground nest dug by their mother. She does not stay in the nest but remains nearby.

The mother cottontail prepares a nest for her soon-to-be-born kits. She lines the nest, covers the nest with grass and with fur that she pulls from her chest with her teeth.

When the kits are 10 days old they can see, hear and have fur. About 2 weeks after birth, they leave the nest and hide in the long grass.

The mother seldom feeds her young for more than a few weeks after birth. Some female cottontails leave to start their own families when they are less than 6 months old.



THE COTTONTAIL RABBIT

When winter sets in and the brush is more open, it is possible to observe cottontails from a distance, especially if you have encouraged them with a few vegetables.

Being rather small and vulnerable to attack from all larger mammals...even dogs...the cottontail has developed keen senses.... It can actually aim its large ears to detect any sound nearby. The rabbit may hear the snap of a breaking twig or the thud of a football a mile or so away.

TO CATCH A RABBIT

Question: How do you catch a unique rabbit?

Answer: Unique up on it.

Question: How do you catch a tame rabbit?

Answer: Tame way.

RABBIT SENSES-VISION

The rabbit is unique in possessing vision that allows it to see predators in all directions. Not only can it see straight ahead and down towards the ground, the rabbit can also see all around itself. The rabbit's eyes, being placed on the sides of its head, permit complete full-circle vision.

RABBIT OUTLINE

Prepared by Adam Lieberman

I. Types of Cottontails

- A. Desert Cottontail
- B. Mountain Cottontail
- C. Eastern Cottontail
 - 1. perhaps most common
 - 2. sometimes called "Florida Cottontail"
 - 3. lives in southeastern Canada, United States, as far west as Rocky Mountains, and eastern Mexico
- D. New England Cottontail
- E. Etc.

II. Terms

- A. buck - male
- B. doe - female
- C. Young
 - 1. kit
 - 2. kitten

III. Foods

- A. Eats Many Kinds of Plants
- B. Spring and summer
 - 1. green leafy plants
 - a. clover
 - b. grass
 - c. weeds
- C. Winter
 - 1. parts of bushes and trees
 - a. twigs
 - b. bark
 - c. fruit
- D. Rabbits Sometimes:
 - 1. damage crops through nibbling
 - 2. damage fruit trees by gnawing bark
 - 3. kill berry bushes by eating the sprouts.

IV. Homes*

- A. form - shallow hole
 - 1. hidden by:
 - a. shrubs
 - b. weeds
 - c. grasses
 - d. leaves
 - 2. some rabbits live in form throughout year
- B. burrow dug by other animals
 - 1. winter home for some rabbits
 - 2. especially common in northern U. S. and Canada

* Not particularly about Cottontails

V. Enemies

- A. Different kinds of Enemies
 - 1. Man
 - a. greatest enemy
 - 1. hunters kill millions per year for sport
 - 2. farmers kill to protect crops
 - 2. Coyote
 - 3. Foxes
 - 4. Mink
 - 5. Weasels
 - 6. Birds
 - 1. hawks
 - 2. owls
 - 3. other birds

V. Enemies cont'd

- 7. Dogs
- 8. Cats
- B. How Rabbits Treat Enemies
 - 1. Usually try to hide
 - 2. May wait for enemy to leave if out in open
 - 3. Dashes for safety if enemy comes too close
 - 4. A frightened rabbit can:
 - a. leap 10 feet (3 meters)
 - b. travel as fast as eighteen M.P.H. (29 Km.P.H.)
 - c. but tires quickly
 - 5. Rabbits try to confuse enemies by:
 - a. zigzagging left and right
 - b. circling back following own path for a while then going off in a different direction

VI. Young

- A. Young in Body 26 to 30 days before birth
- B. Number of Young
 - 1. usually 4 or 5
 - 2. may have 2 to 9
- C. Undeveloped at birth
 - 1. sight
 - 2. hearing
 - 3. fur
 - 4. gained at approximately 10 days old
- D. Nest
 - 1. dug in ground by mother
 - 2. young placed inside, covered with grass and with fur pulled from mother's chest with mother's teeth to hide them and keep them warm
- E. At Two Weeks Old
 - 1. big as man's fist
 - 2. leaves nest and hides in long grass and leaves

VII. Pet Rabbit vs. Wild Rabbit

- A. Fur
 - 1. wild
 - a. soft, thick
 - b. brownish or grayish
 - 2. pet
 - a. black
 - b. brown
 - c. gray
 - d. white
 - e. combination
- B. Adult
 - 1. wild
 - a. grows to 8 to 14 inches (20 to 36 Cms)
 - b. weighs 2 to 5 lbs (.9 to 2.3 Kg)
 - 2. pet
 - a. 8 inches (20 Cms) longer than wild
 - b. weighs 5 pounds (2.3 Kg) more than wild
 - 3. Most female rabbits are larger than males
- C. Lifespan
 - 1. Few wild rabbits live longer than one year because it has little protection against enemies
 - 2. Many pet rabbits live as long as five years

VIII. Miscellaneous Facts:

- A. Cottontail Rabbits are wild rabbits of the U.S., Canada and Mexico.
- B. Most rabbits eat and play from dusk to dawn and spend the day time resting and sleeping.
- C. Rabbits belong to the order Lagomorpha, and to the rabbit and hare family of Leporidae. Cottontails belong to the genus of New World rabbits, *Sylvilagus*.
- D. A rabbit's eyes are on the sides of its head, so it sees better behind it or on its side than in front.
- E. Rabbits can move their long ears simultaneously or separately to catch faint sounds in any direction.
- F. A rabbit's teeth grow continuously, so it must chew a lot to grind them down.
- G. A rabbit depends on its keen sense of smell as well as hearing. It seems to twitch its nose almost all the time.
- H. A rabbit's tail is about 2 inches (5 cms) long. It is covered with soft, fluffy fur that makes it appear to be round. This fur, along with the fur on the underside of the rabbit, are colored lighter than the fur on the top. American Cottontail Rabbits are named for the white or light gray fur on the underside and on their tails. When a cottontail hops, its tail looks somewhat like a bouncing ball of white cotton.



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P.S. 175 Class 7-234 Teacher: Mr. Zorbas

Students:

David Alvarez, Gary French, Jeff De Silva, Mickael Scott, Jamal Martin, Mario Ferreira, Steve Crosby, John Doria, Robert Stanley, Andre Thompson

P.S. 221 Class: Level I Teacher: Mrs. Sloman

Students:

Leyla Baloy, Christopher Conover, Melanie Glickson, Robert Harris, John Kennedy, Earl Maneein, Timothy Nolan, Shira Nussdorf, Christopher Pan, Margaret Rocco, Jonathan Simms, Jason Strassberg, Kimberly Sussman, Lauren Thomas, Nicole Tzougrakis, Eric Wenke, Camille Bersamin, Pamela Boltax, Jeremy Brenner, Andrew Grabon, Jordan Heffez, Brian Herz, Matthew Lima, Marykate Meehan, Constantine Papachristopoulos, Christina Pentlow, Valerie Phillips, Joshua Schechter, Jessica Schutz, Antoinette Schindel, Gregory Melnick

P.S. 221 Level IV Teacher: Mrs. Weissman

Students Grade 3:

Glenn Kurtzrock, Garey Noritz, David Pentlow, Julian Perlmutter, Joey Rogove, Tiffani Banks, Maria Biondo, Tyeisha Deas, Reina Horowitz, Sari Kaplan, Lisa Levy, Karin Meitner, Ann Marie Richardson, Fenella Saunders, Melissa Schindel, Denise Stokes

Students Grade 2:

Jason Criss, John Dandola, Bret Edelman, Lorne Jaffe, Kurtis Melnick, David Pisk, Oscar Sodani, Lauri Cuoco, Sherri Gilman, Dana Kayaian, Carina Markett, Donna Nadel, Amy Pecorino, Stacy Rosenberg

P.S. 221 Level III Teacher: Mrs. Kessler

Students:

Regina Bailey, Jamie Bass, Michelle Benatti, Monica Bocan, Frank Buccola, Andrea Caralluzzo, Ravi Davis, Thor Essman, Scott Frieberger, Pablo Garcia, Elyse Goodman, Lee Hendelman, Tara Hirsch, Adam Hofstetter, Ericka Jenkins, Craig Laizides, George Laszlo, Michael Medaglia, Erika Meither, Jason Moscovitz, Christine Picciano, Walda Pinn, Jeremy Rubenstein, Brian Simms, Matthew Urso

P.S. 221Q Class 4/3-101 Teacher Mrs. Adelson

Students: Level V

Jon Gilgoff, Rochelle Goldstein, Fiona Kuan, David Martinez, Alexandria Mamakos, Christopher Provenzano, Tobey Soller, Kimberly Walla

I. S. 237 8-17 Teacher: Mrs. Karsh

Students:

Mark Ahlers, Adam Lieberman, Joseph O'Conner, Richard Bebenroth, Darrell Benvenuto, Christopher Fox, Patrick Halpin, Jon Gimpel, Steven Kristy; Drawings by Christopher Lang

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